Report of the Wisconsin State Horticultural Society for the year 1869. 1870 [covers 1869]

Wisconsin State Horticultural Society
Madison, Wisconsin: Atwood and Culver, Book and Job Printers, Journal Block, 1870 [covers 1869]

https://digital.library.wisc.edu/1711.dl/GZ6KNSNSYAQFS8W

REPORT

OF THE

WISCONSIN STATE

HORTICULTURAL SOCIETY

For the Year 1869.

MADISON, WIS.
ATWOOD & CULVER, BOOK AND JOB PRINTERS, JOURNAL BLOCK.
1870.

REPORT

OF THE

WISCONSIN STATE

HORTICULTURAL SOCIETY

For the Year 1869.

MADISON, WIS.
ATWOOD & CULVER, BOOK AND JOB PRINTERS, JOURNAL BLOCK.
1870.

REPORT

OF THE

WISCONSIN STATE

HORTICULTURAL SOCIETY

For the Year 1869.

MADISON, WIS.
ATWOOD & CULVER, BOOK AND JOB PRINTERS, JOURNAL BLOCK.
1870.

ANNUAL REPORT.

1869.

The Wisconsin State Horticultural Society has made good progress during the last year. The meetings have been more numerously attended than ever; the addresses delivered and the papers presented have been of a valuable character; the exhibitions, both general and special, have been more than usually large and attractive; and the society has also been reasonably successful in the new enterprise of directing the improvement of the experimental garden on the State University Farm. In one thing, only, did it entirely fail—in securing the very moderate appropriation asked of the legislature, to enable it do more and better work in the future.

It is believed that the matter contained in the report herewith submitted to the members of the society and the public at large will be found exceedingly interesting aud valuable.

As the fall exhibition was a part of the general exhibition of the State Agricultural Society, and is fully reported in that society's transactions, but little space will be occupied with it in this report, other than with the interesting address of that veteran horticulturist, Dr. John A. Warder.

Thanks to the liberality of the State Agricultural Board, the society has been enabled to meet all its obligations, and has a small balance in the treasury.

The importance of the work done by the society is recognized more and more fully every year by the intelligent people of the state, and the time is not remote when its services and its necessities will be duly acknowledged by the law-making power.

ANNUAL MEETING.

STATE AGRICULTURAL ROOMS,
TUESDAY, Feb. 9, 1869.

The Wisconsin State Horticultural Society convened for its annual session in the agricultural rooms, in the capitol at Madison, at 7 1-2 o'clock P. M., and was called to order by the president, Dr. Joseph Hobbins, pursuant to the call thereof, published for that purpose; when Wm. T. Leitch, the president of the Madison Horticultural Society, delivered a brief address of welcome.

ANNUAL ADDRESS.

President Hobbins followed with his annual address, which was listened to with intense interest by those present:

Gentlemen and Members of the State Horticultural Society:

The address I am about to make to you consists of such horticultural reflections and suggestions as have occurred to me from time to time during the past year, run together without any particular order or method. Nor, indeed, as you will discover, have I made any special effort to elaborate the thoughts I shall utter, since I would rather that they should be regarded as of a purely suggestive character, leaving the elaborating and perfecting process to you, should you deem them of sufficient importance.

As I move through society I have been struck by the false and by no means flattering idea which many people seem to entertain of the character of a horticulturist, and more especially of the amateur horticulturist. Therefore. I shall take this opportunity, knowing that what I have to say will

be likely to reach such people through the publication of our transactions, to disabuse their minds, if possible, and to give them other and better impressions of us.

There are in our community those who erroneously imagine that the love of the beautiful, even when it involves the useful, pertains to or implies effeminacy of character, and that florists and fruit-growers are necessarily men wanting in the more manly qualities of the mind.

There are, also, those in society, who, having no adequate appreciation of the wonders and beauties of creation, of the stars which illumine the heavens, or the flowers which adorn the earth, or of anything beyond the things which minister to the grosser senses, utterly and ignorantly condemn all the refining influences as well of art and of science, as of nature. For them, there is nothing grand and generous in the open day of summer, nothing soft and witching in the silver hour of evening; neither music in the gentle breeze, nor perfume in the perfume-breathing flower. For them, there is no tongue in trees, no books in the running brooks, nor good in anything. Nature never smiles for them. The kindly voice, the song of birds, the merry laughter of children, all alike are but dumb meaningless things. Not a single chord in their breasts to vibrate with beauty or gladness. How aptly has the poet painted an individual of this class—

> "A primrose by the river's brim,
> A yellow primrose was to him,
> And it was nothing more."

We believe, and it is a belief full of wondrous pleasure and satisfation to the mind, that God created the heavens and the earth. The dominion thereof was given to man. Do we not acknowledge this to be immeasurably grand, beautiful and God-like? This work, this creation, was for us! Does not the gift argue the fitness of a like grandeur and likeness to God in the receiver? And yet this great work was to be completed; and so "the Lord God planted a garden in Eden, and there He put the man whom He had formed." Pardon me, if you please, the quotation on such an occasion; in order to dig-

nify as well as justify gardening, the science or knowledge of horticulture, I could not resist the temptation. Where God has put man—his own likeness—you will, I trust, agree with me, man may still take his stand, regardless of the charge of effeminacy. And above all, where gentle woman is placed along side of him in his garden—there, and there alone, so far as I have any knowledge, is your true Eden to be found; the world itself, the outside creation being left to those contemners of the beautiful for whom paradise itself would have no charms. Beauty cannot be ignored any more than virtue, goodness—both are essential to the happiness of man.

The love of horticulture is then of no effeminate character, but arises, though we may be unconscious of the fact, in that love of repose, which is innate in the bosoms of all men, but most manifest among the intellectual and refined. I know that it is common to attribute it to a love of nature. But this is an error in my opinion. An ardent lover of nature usually seeks the indulgence of his passion in activity, in restlessness, in travel, in exploration and adventure. Not so with the lover of the garden. He is found wedded to his idol at home. And if we were to judge him by the calm, and quiet, and happiness he finds there, we should find that his love for a garden had both for its result and origin the love of repose. Neither is there in this effeminacy nor weakness, since repose itself is one of the grandest features of the Divinity, is indeed one of his attributes, a quality by which man as well as things may be fitly tested for their own true worth.

Horticulture then is like all other good and perfect things, of divine origin and nature, a science pleasant and useful, and in this, its origin and nature, is seen its true relationship to man.

The duties of man, in this relationship, are as numerous as they are pleasant and profitable. The earth, the seasons, his own necessities as well as his desires, invite him to these duties and, to a great extent, indicate how they shall be done. This great world of ours has sometimes seemed to me like a great picture gallery, full of beautiful picture frames—some full,

some empty, and where every man has an ownership. We all have a little frame for ourselves. Is it filled? If not, will you fill it? The gallery is the beautiful earth itself. The frames are the surroundings of our own homes. Shall then our little worlds be little Edens, or little wildernesses? In other words, shall we have pleasant and useful gardens, or unsightly, unprofitable and empty lots or yards. Resolve we this question favorably, and then it is that our duties as horticulturists are commenced. What kind of a garden do we want? Pleasant and useful it must be; but of what shape, and what will be its internal arrangements? What shall we grow? When shall we plant? How feed and tend the plants? Here is a little world of enquiry for us, but it is a world full of delight and content in which the true lover of horticulture finds himself oblivious to all other cares and knows no disquietude but what shall spring from some pleasurable solicitude for the well-being of a cherished plant or honored tree. In the very littleness of such cares lies hid very much happiness and very many comforts. "A garden," says the great and wise Lord Bacon, "is the purest of human pleasures; it is the greatest refreshment to the spirit of man, without which, buildings and palaces are but gross handiworks; and man shall ever see, that when ages grow into civility and elegance, men come to build stately edifices sooner than to garden finely, as if gardening were the greater perfection."

In the subject matter of the questions just propounded are involved the art and science of gardening, the methods and manner as well as principles of our duties, as horticulturists. A very ignorant man may be a very excellent gardener as far as art is concerned. Of this truth, we have every day proof in the illiterate character of the men who do our gardening. And one who possesses an excellent knowledge or scientific education as a horticulturist may be equally ignorant of the art. The distinction is perfectly legitimate, since it is the province of science to discover truth and of art to apply the truth discovered. Sir Humphrey Davy, the great chemist, as well as philosopher, once made a blunder notably illustrative of his igno-

rance as a man of science. His science without art or experience led him to believe and to promulgate the theory that recent undecomposed manure was the proper food for plants, a theory at variance with the experience of all art gardeners, and an error. Nor is Sir H. Davy the only reputed man of science who has made blunders in gardening. I have myself known a gentleman who stands pretty high in this state as a horticulturist plant a top onion upside down, it not having occurred to him that there was either top or bottom to an onion. Sir John Herschel has well said in relation to this distinctive character of art and science: "In the progress of mankind from barbarism to civilized life, the arts necessarily precede science. Applications come later; the arts continue slowly progressive, but their realm remains separated from that of science by a wide gulf." Art itself, he wisely characterizes under two heads—that which consists merely of *accumulative experience*, in which the reasonable faculties had played but a small part, and the *scientific art*—the result of "*experience reasoned upon and brought under general principles.*" This is true art, whilst that is only false or *empirical*, as Sir John calls it.

When, therefore, I speak of the principles of gardening or horticulture, I would be understood as meaning the principles of gardening derived as well from art, that is, practical experience, as from true science, which is knowledge, practical as well as theoretical, a basis of fact as well as of reason understood and demonstrable.

I have said that the first requirement of a garden is, that it should be both pleasant and useful. Concerning its shape or the proper form of its boundary line, it is not easy to lay down any rule, nor, indeed, bearing in mind that the outlines of our gardens are already laid out in rather an arbitrary manner, after the fashion of oblong lots and blocks, it is but seldom necessary. Where, however, our residence is in the country, and we are untrammeled by city restrictions, the question may occur, of what form shall a garden be made? And the answer will be just what the practice always is,—according to your fancy. It were to be wished that I could tell you what fancy

is, or where to find it, as otherwise I have only succeeded in creating a dilemma for you in the place of affording easy instruction. But, alas! I too can only say:

> "Tell *me* where is fancy bred,
> Or in the heart, or in the head,
> How begot, how nourished."

Fancy is said to be a lady, and in order to possess her, it is first necessary to cultivate her acquaintance. A cultivated taste will go far to supply the absence of particular rules. But fortunately for us, where these rules are applicable only with great difficulty, there are always some general principles to be found for our guidance, which with the aid of taste and judgment are all sufficient for our purpose.

It was the practice of those noble masters of architecture, the architects of ancient Rome, to suit the style of their buildings to the character of the scenery or the objects of the vicinity where they were about to build. And I have observed that where this practice has been adopted by landscape gardeners in the making of gardens, the effect was good, because in perfect keeping, everything was harmonized. The best specimens I have ever seen of this kind of gardening, was the far-famed and justly celebrated Leasowes, designed and executed by the poet Shenstone, and which Dr. Johnson, in his "Lives of the Poets," has so aptly termed "a perfect poem." It is, or rather was, in itself a perfect epitome of all that is beautiful in natural scenery. 'Twas here that Shenstone spent both his life and his fortune, and sweet as were his verses, his true and best poem was his garden. Bold, subdued, hilled, vallied, treed, shrubbed, flowered and fruited; grottoed, cascaded, and rivuleted, meandered by walks leading by "devious ways" to spots opening upon views or objects of beauty and interest. Nothing left to accident, but all ordered by design—a perfect plan—the work or creation of one tasteful, thoughtful, cultivated and poetic mind; no wonder that it should rank as the first of England's gardens, though the land itself is but a land of gardens. The great charm, however, of the Leasowes, was its harmony with the surround-

ing scenery. The majestic basaltic rocks of Rowly Regis on one side, the dark and towering woods of Hagley park, (the seat of the famous Lyttletons) on the other, with the Clay hills and Malvern the monarch of midland shires in the distance; with a hundred sweet and beautiful vallies between. What grander picture frame could be desired for a poet's painting. And in that painting was to be found everything requisite to the beauty of a garden, regulated almost by scale, so strictly in harmony was every feature, both of nature and of art.

How different is this, which was so perfectly natural, and therefore may be said to be true art, from those other far more but less justly famed gardens of Chatsworth and Versailles. These are almost purely artificial, independent creations—locally regarded. You might plant them anywhere, especially Versailles, and they would look almost as well. And in this, in my opinion, lies their failure. The gardens proper, of both of these world-attracting places are flats, and their chief attractions fine palatial buildings, with fountains wondrous and statuary most exquisite, with the one, and a modern flat building, with a magnificent conservatory, fountains and a waterfall and river, with the other. The same Dutch, stiff style of terrace gardening proper, is followed in both places. As works of art, architecturally considered, they are indeed well calculated to challenge admiration. But as gardens, they neither appeal to the eye, the heart, nor the mind. Shenstone's garden, as Johnson says, was a poem complete, the creation of a garden lover, of a sweet, true, cultivated country poet, while Varsailles and Chatsworth, as I have trod them over, and see them even now, are as it were the fruits of a palace builder's dream, a Kubla Khan, if you will, a broken dream of art splendor, a poem grand and startling, but unfinished, *unreal.*

Now the same principle that obtains in the Leasowes, or in large gardens, applies, though unequally, to our city lots, or small gardens. The difference lies in the size of the garden and the character of its surroundings. But does it follow because

our picture frames are small that our pictures are necessarily lacking in art, in finish, or in beauty? By no means. The miniature, though less imposing, may be full as beautiful as the life sized portrait. And the landscapes of Turner, small though they be, are scarcely less valued than the larger ones of Claude. All that is necessary is, that we should harmonize, that we should be governed by the law of proportion—which law itself consists in harmonizing things of different proportions. There is no harmony in planting the lot surrounding your house entirely with cabbages, or potatoes, and yet this is a common practice, nor does it show a particle more of taste to plant a forest of apple trees about your home, a practice almost equally common. The reason is, that moderation is an attribute of beauty. Any error in this respect is an infraction of the laws of proportion without which beauty in art cannot be obtained. Want of moderation, from whatever cause it occurs, betrays at all times a want of proportion. Besides, every garden should have an expression, and that expression should be a reflection of nature, or of finished art, which is the same thing. The absence of this strikes one as does the vacuity of idiocy. This want of it, or where it is found only in a too limited extent, affects one as painfully as does the portrait of a friend where the same want is observable. It is this very feature of a garden—its expression—that denotes the master hand. It is with the spade in the garden as with the brush on the canvass, your colors may be all correct, your grouping to the life, your beds may be in perfect order and your plants in exact position; but something more is wanted than either brush or spade. And that is *intelligence*, right expression, which must be made to shine out as it does in the face of nature; otherwise nature herself, at the best, is but beauty without light, without power of illumination.

A garden is but a horticultural painting, and unless, like a painting, it is true to nature, it is only a false specimen of art, or a specimen of false art, as you like. A garden, then, is "a thing of beauty," it must be so in order to meet its first requirement, that of pleasantness. In this requirement is in-

volved the first and greatest law of garden making. It must be pleasant, and in order, as we have indicated, to be pleasant, it must be made beautiful. Nothing unsightly must be seen. Nature must be won by art to mould herself to your taste and design, and the work being completed, the only test, a simple and ever true one of its perfection, is the spontaneous pleasure it gives to the intelligent eye. Where with an effort you are to look for beauty, argues either no beauty present, or the absence of all taste for the beautiful. The cultivated eye is the sole judge.

A garden, as I have just said, is but a horticultural painting, embracing all the details and accessories that the subject required. It should have its little lawn, its roses and honeysuckles on each side of the front door of your house, and its ivy, the Virginia creeper at each end of the piazza, and reaching as high as the chamber window and falling in graceful festoons from the house gables. It should have a variety of flowering shrubs, choice and increasing in size toward the dividing fence on one side and a moderate sized tree or two, ranged with a few evergreens on the other side, serving both for ornament and as a screen from the public gaze to the back garden. Make a little bed of perpetual roses and another for geraniums and verbenas, and intersperse a few hardy perennial plants among your shrubs. Plant a row of trees outside of your sidewalk, and the arrangements for the front of the house are tolerably complete. The back garden is for use, but equally pleasant as the front. This should be laid out so as to possess a few choice fruit trees, apple, plum, crab, and if you are south enough, a pear, cherry and may be, a peach. The walks may be edged with currants, undercropped with strawberries. The fence with the south or south-west aspect should be covered with grape-vines, and that of the north with blackberries and raspberries. It is perfectly wonderful what a variety of things can be grown, both luxuries and things necessary, in a single lot of ordinary city or village size. It furnishes room for all the summer and fall vegetables, salads, etc., as well as an odd nook or spot for things purely ornamental.

I do not make it essential to have fountains, grotto work,

statuary or glass houses which will come with the coming wealth of the state, but rather address myself to what can be done now, with but little expense and with no more care than is at once pleasurable and profitable. Nor would it be possible for me to particularize the tree or shrub, or flower, or fruit, or vegetable that should be planted, nor, such is the diversity of our soil and climate, would it be wise to attempt to lay down any law for their cultivation or proper method of caring for them. That which I have unavoidably omitted, each must supply for himself. Individual taste, intelligence, experience and necessity will teach how this is to be done, and where these fail, this society will be found the best teacher.

I have now, gentlemen, to offer you a few suggestions, crude enough and unelaborate, as already intimated, but which I trust may not be found unworthy of your consideration. And first among them, is one upon the manner of conducting our horticultural exhibitions. My own ideas are that we cannot make our exhibitions too attractive, and that for this purpose, what are usually regarded as extrinsics on such occasions, like music, dancing, refreshments, etc., are perfectly legitimate means for us to use, being used as a means to atttract and amuse, in order to win the opportunity to teach. Amuse, attract, teach. That music, dancing and refreshments greatly conduce to the success of our local exhibitions and to spread the love of horticulture, no one conversant with the history or proceedings of the Madison Horticultural Society would doubt. This is the English method of conducting such societies and the success of the Madison society is in a very great measure, as I think, owing to its being such a good copy of the original. In conducting our state exhibitions, I can easily see that the quadrill feature might not be so advantageous, but I can see no reason why we should not have music. To say the least, it would be quite as good for horticultural as agricultural, and as you know, gentlemen, the State Agricultural Society is set to music, that is, they have their band. Music should be had, scenic ornamentation, fountains, rustic or garden furniture, garden implements, (following the practice of the agricultural

society) and in fact specimens of everything useful and ornamental in horticulture. The paramount object of all such societies is to teach. In my opinion, to do this, it is not enough that we simply *show* the *fruits* of our labor. We should show the *means* and *modes* of producing this same fruit. Much of this can be done at a glimpse, and to those who come to learn, such a glimpse is valuable.

There is another feature that can be profitably and legitimately added to our exhibitions, both local and state. I mean the garden vegetable feature. I cannot conceive that any sound reason can be urged for excluding it from our shows. We call ourselves a horticultural society, but our shows would lead people to suppose that we were nothing more than a fruit and flower society. To introduce and promote the collection of choice and good vegetables seems to me a part of our mission. Potatoes sold at a dollar a pound are surely as worthy of cultivation in the garden as the apples which sell at but a dollar the peck. We should lead, gentlemen, in this matter and not follow the farmer.

The policy of our society, too, I should like to see amended in some things. The importance of a more perfect union with the local societies for the purpose of giving and receiving information, must be obvious to us all. Local knowledge is what we want, since the experience of another state, or even of parts of our own state, cannot always be accepted as our guide. Ours is a peculiar state, both in soil and climate, and our practice in fruit growing must be in its modes peculiar also. We must study our own state. Without a more perfect union with local societies, and without an increase in the number of our societies, the knowledge we want can be obtained but slowly and with uncertainty.

The next suggestion I have to make to you is one which, if it meet your approval, I hope you will take such action upon before leaving the city as will be likely to secure its adoption by the legislature. You will remember, gentlemen, with some little pride your initiating the movement for the appointing of commissioners on the part of the state, whose duty it

was to report upon the destruction of our forests, its injurious effects, etc., upon the climate, upon the people, and the duty of the state in regard to the matter. I scarce need add that one of those commissioners was appointed as the law directed by this society, or that a more able, and interesting report was never made to our legislature. I wish now to urge upon you the necessity of a horticultural exploration of the state. Its necessity at first sight, I must confess, does not seem very apparent, nor does such a proposition seem to present any sufficient compensating advantages. But when we come to consider that very little is known of our indigenous fruits,—I mean in their great varieties,—that probably still less is known of the character of their habits, and that it is now, as it ever has been even in the old geological ages of the earth, the habit with certain plants as well as with animals to locate themselves only in certain peculiar localities, the importance of finding out the character of these plants as well as the character of their localities if we wish to cultivate fruits, becomes manifest. I shall perhaps be better understood, if I say that it is stated on good authority, that we have over a hundred different varieties of indigenous plums in Wisconsin,—that some are red and some are yellow, but those in one locality are three times the size of those in another locality, while one is of a good quality and the other not good. Now, this is about all we know of them at the present time, and but few people in Wisconsin probably know so much as this about their plums. Add to this, that the plum is a very desirable fruit, that it is almost impossible to grow the tame plum with us, and then the importance of the exploration I ask for is in a measure apparent. And let me add, as with the plum, so with the raspberry, blackberry and other fruits. In all countries are found localities where particular varieties of the same fruit grow best. This is a fact sufficiently familiar to us all. Do we know anything positive of the existence of these localities in this state? Very little. With the great desire on the part of our people to grow fruit, is it not desirable to ascertain whether they exist at all? How is this to be done? By the blind

and ruinous blundering on the part of men ignorant of the first principles of horticulture, or by intelligent and systematic research and inquiry? Which of these courses is most conducive to the interest of the people? An exploration then, of the kind I recommend, should have for its object, not only the learning all that can be learnt of our indigenous fruits, but the learning of all that can be learnt of those localities, where, for good and sufficiently ascertained reasons, the people can plant with the reasonable assurance of gathering the fruit. A commission of this character, at an expense of a thousand dollars, would, I have no doubt, if it did nothing more than teach us which of our indigenous fruits, the plum for instance, was most worthy of our efforts to improve by cultivation, and point out the best localities for fruits already domesticated, be a saving to this state of a hundred thousand dollars within the next ten years.

In connection with this suggestion, it ought not to be overlooked that horticulture is not simply calculated to beautify the land we live in, but to introduce among our people every variety of fruit and vegetable which can contribute to health or comfort. The art is but in its infancy among us, and to judge by what it has done for us the last fifteen years by way of introducing and originating new fruits and vegetables, it would seem that a new world of productions necessary, or as luxuries, is promised us within the next fifteen years. Will the legislature help forward this work?

A word or two about our experimental garden. This state, horticulturally speaking, has distinguished itself during the past year in a way unprecedented in this country, so far as I know, by the establishing of the state horticultural experimental garden and the giving of horticultural lectures in the state university by the members of this society. The initiation of such a work is work enough, as it seems to me for one year, but its perfecting and completion must be the labor of many men and many years. Its necessity and great advantage must and will ensure its success. Its progress promises much.

I have spoken of the necessity for a more perfect union be-

tween the local and the state societies for the special purpose of collecting local knowledge. While speaking of the experimental garden, I wish to add another word upon the importance of such connection, as without it we can advance but slowly. Nevertheless, a mere collection of facts in any science, particularly, as it seems to me, in horticulture, gathered as they must be under such different circumstances, can in themselves be of little service. They are as it were but the rough unhewn stones intended for an architectural structure; but without the chisel, without the architect and without the builder, the stones like the facts are but little less than useless. Here then it is, just at this point, that the experimental garden is required. It becomes, so to speak, a laboratory for testing the quality of local facts, comparing, sifting them, proving them, and determining whether they are valuable or worthless. Here too, at the same time is shown the value of the parent society, whose duty it is not only to gather information, but to digest it, to put it into shape and to build up the superstructure of its favorite science. In this way and in this way only, as it appears to me, can we have a truly scientific and useful society. Facts without science like science without facts, are calculated to mislead rather than benefit men. We must collect, collate, reason, deduce and prove, before we can hope to teach the people horticulture.

Before I close I have a pleasant duty to perform, in acknowledging the appreciative and complimentary manner in which Governor Fairchild has in his recent message recommended our society to the favorable consideration of the legislature. This action was unsolicited and entirely voluntary on his part, and as he has since informed me, resulted from his own observation of our efforts as a society, and the great good we were doing in the state. There is also another gentlemen to whom this society is under great obligation. I mean Paul A. Chadbourne, president of our state university. President Chadbourne has shown a deep interest in this society as evidenced not only by the able and appropriate address of last winter, but by his working earnestly and faithfully with us in establishing our experimental garden; believing as he does, that horticulture is

not only an ornamental and useful science, but that it should form part of the education of an agricultural people, such as ours is. When, therefore, I say, that this is a matter of congratulation, I am sure you will agree with me, since to have enlisted the sympathies, the appreciation and the help of gentlemen deservedly occupying such positions, forms an era in the history of our society.

And now, gentlemen, in conclusion, though I might consider your favorite science in many more of its aspects and relations, I can scarcely believe it necessary. Were, however, any further argument needed to show the advantages of horticulture, it is to be found in its moral as well as its intellectual influence upon the character of individuals as well as of nations. Its action is indeed, in this respect, of a reciprocating nature. It not only is the means of civilizing a people but is again one of the products of the more refined civilization. It is not only a moralizer but the work of a moralizer in return. It is as the heavens, a picture-maker and a picture for the multitude; poverty's solace and the rich man's luxury. A teacher and a lesson in art, in the good, and in the beautiful. It is one of the few and certain means by wihch men can positively obtain that for which all men alike are seeking, how to spend a truly happy hour. It is a quiet communing with nature by which men are made better in the perfect forgetfulness of all other things. And this is to me one of the many, if not the most remarkable, features of horticulture. In my garden whilst tending a simple flower or a delicate vine, cares, thoughts, feelings, memory are vanished. There is a kind of sensuous delight but no preceptible consciousness of anything, but the little specimen of God's love before me. Such a state of mind has often been to me a source of reflection, of enquiry, and the result is that it is in itself but a touch of that felicitous state of existence,—in this world never fully realized but once,—when our parents, the gardeners of Paradise, were young on the face of the earth, and all guile and guilt unknown.

SECRETARY'S REPORT.

Mr. President and Gentlemen of the Association:

One year ago to-day I spoke encouragingly of your labors, and of the future. How well those hopes have been verified, and our expectations realized, it may not now be amiss to examine. Where we once were, were one year ago, are now, and still more ought to aspire to, is well worthy a moment's thought. But a few years back this association was thought to be dead—not life and energy enough in its members to resuscitate itself—but lo! the leaven had been working and "in an hour" many of us "thought not of" it sprang into life and "brought forth fruit," if not an hundred fold, still a reasonable increase, showing we have a healthy growth. Previous to the last year there had been no special object in view, save that of a general nature in the spread of horticultural knowledge, and the encouragement of planting and growing of trees. This, we believe, had its reward, and though we worked to a great extent very blindly, yet the society was instrumental in much good.

At the meeting of February, 1868, new life seemed to inspire the actions and motives of every member present, and with renewed energy they went to their task, feeling there is a pleasure in horticulture, in the spread of the "useful and the beautiful," which we have but half realized. As a result of this view and determination, we have but to refer to some of the tasks undertaken for the year, and to note with pleasure how well they have been carried out. First of all, we look at the resolution of the last meeting, accepting the use of five acres of the agricultural farm—kindly tendered to us by the regents for horticultural experiments. We are not aware that there is another society in the United States that has undertaken such a work. That it is a noble work, one worthy the heartiest support of every horticulturist in the state, none will question. We feel warranted in saying this, when we review the long list of contributions by its friends from all parts of the country. For the benefit of those not acquainted with the

grounds, we would say, that it is almost new—soil even unbroken in the spring of 1868, and planting commenced at once. They are of a southern and western slope; running down to and including a portion of the level land. The grapes occupy the south of the hill, but mostly near its base. As a means of protection, but more in the future than immediately, evergreens have been planted in a large circle to the southwest from the grape plantation. Evergreens, small fruits and shrubbery occupy and form a border along the grounds immediately adjoining the principal drive of the farm. Apples are planted in an open space, but protected by high land on the east, and a low thicket at a little distance on the north and west. To start the planting of these grounds, with the expectation of any satisfactory results, was no small task. With comparatively no knowledge of what would be contributed, either in kind or quantity, to expect much was more than we did; to us 'twas like creating a world from nothing, but unlike the world, we have not yet been prepared to say even "very good" in its general arrangement, but hope now that better hands may follow and complete, even perfect it in the beauty and utility, we may imagine of such a work. The spirit with which these donations have been sent is well worthy of comment. We did not *intend* to approach any one in a spirit of beggary—though we sent hundreds of circulars, and also wrote numerous personal letters, but these were more as reminders than solicitations.

The contributions and some of the letters characteristic of the trade, we thought, would not be uninteresting, and the same were published in the *Wisconsin Farmer*. A *resume* shows that there were 108 apple trees, 4 varieties apple-tree scions, 163 raspberries, 56 currants, 54 ornamental shrubs, 150 deciduous hedge plants, 1,599 evergreens, (of which 1,450 were contributed by one firm for a hedge experiment,) 107 grapes, 16 crab trees, 36 strawberry plants, 47 gooseberries, 178 papers of seeds, 6 assorted deciduous trees, 32 plum trees, making a sum total of 2,560 trees, plants and shrubs.

These are all doing well; but very few died. Grapes, berries,

some of the shrubbery and all the apples are well mulched for the winter.

Another task undertaken by a portion of the society, and which we trust may meet with the hearty support of all its members, has been the carrying on of a system of lectures before the students of the university, or the male members of the same. And we would say here by way of parenthesis, that we were very sorry to see this discrimination; for we believe that as a rule, the subject of horticulture treated of in a proper lecture, with a view to its encouragement at home, would be of incalculably more benefit to the ladies than to gentlemen. They will carry it home, viewing it as a pleasure, with a view of beautifying and making home attractive; men are too apt to treat it purely financially. "Will it pay?" Of lectures, Judge Knapp read two, Messrs. Hobbins and Willey, one each. And we trust that they were received with the same spirit with which they were given, and were not altogther lost for good in the encouragement of horticultural progress, but will be followed by other gentlemen, whose light ought to shine more frequently than it does.

The last great task of the season was its annual fair. Unlike that of 1867, when every orchard was loaded to its utmost, this season was almost barren of fruit, yet with all this, the friends of horticulture responded nobly, and floral hall was well filled with choice specimens of fruits and flowers. We will not discriminate, for where all did so well, 'twould be folly to make the attempt. The fact that the choicest of apples, grapes, and as fine a show of plums as we ever saw, and peaches from quite remote sections of the state, were on exhibition is enough to confirm the opinion, already existing in the minds of many, that success depends upon the energy and ability with which we grasp the enterprise, remembering

> "That he who by the plow would thrive,
> Himself must either hold or drive."

The fair, we believe, may be considered a success, and the arrangement with the agricultural society for a joint exhibition satisfactory. We trust a committee may be appointed, or the

incoming officers instructed to arrange with our co-workers upon similar terms for the coming season.

During the week of the fair the friends of horticulture listened to a very interesting address by Judge J. G. Knapp of Madison, on the "relation of our climate to fruit-growing, and the reason of failure." This address presented the cause of failures in a new and somewhat novel manner, laying the base of failure at the extreme drouth of the northwest, and to substantiate his view, cited numerous instances in confirmation of this opinion. It was listened to with much attention, and followed in remarks by several of the leading fruit-growers, who gave their experience with varied success, but all tending to confirm the idea advanced by the speaker of the evening—that the drouth of the latter part of the season of 1867 was the prime cause of the great destruction of fruit trees and plants during the winter following and summer of 1868.

This much then for the past. How well 'tis done, you, not I, may judge. Of the future what shall we say? The field for labor is large—ripening for harvest as much of the seed is already sown. In addition to completing the work already commenced, viz: more fully planting the grounds of the experimental garden, which we trust will be even more liberally supplied than heretofore, not with common things only, but everything which comes into your possession worth growing, and fully meeting the demands that may be made on you for lectures before the students of the university, and the annual exhibition to be given, I say in addition to these, the labors you have already on your hands, there are others which require your time and attention. Gentlemen, this society has a bright prospect before it. It is within your power to put forth the hand and insure ultimate success, if you but will it. Shall it be done, or will you let the golden opportunity pass? That you are weak, financially, is true—then ask for aid. That the legislature of Wisconsin will grant assistance, we have no hesitancy in saying, if your claims are properly set forth and the objects for the same explained. In the scientific world is a field for labor which rightfully belongs to this society to occu-

py. Shall we let it pass unnoticed; and where choice fruits *should grow*, will you allow it to be covered with crabs and thorns, yea, even thistles covering the waste places of our land?

It is within the province of this society to not only be a help-meet to work out an academy of science, but to take hold at the foundation of the work, and through its interest aid in the legislative work toward the dissemination of practical knowledge, so much desired and absolutely essential. There are rare and as yet unknown plants, both native and foreign, that may be of great service to our state, and which would add wealth to its resources were they but known. Your work involves great scope of action. All the discoveries connected with the natural sciences should be at your command, and when this is done, and the direct object of your labor is properly understood, and the relation it will hold to the state and country at large is appreciated, then has a field of labor been opened out to your view.

The objects to be pursued are many. You should appoint an ad interim committee, whose labors would be required almost entirely to be done during the summer, or at intervals from spring to fall. This committee, consisting of three members (Illinois has five), should visit every nursery in the state, noting the condition in which they find the trees, care of nurseries as far as possible, relative value of sorts cultivated and reliability of same. The bearing orchards of the state should be visited, list of fruits noted, and their value or merits as adapted to this soil and climate carefully written down. Any new or unknown sorts should be watched for and whenever found made the especial study of your committee, more especially so, if it seems to be thriving in its locallity, searching out its history, nomenclature, etc. The small fruit plantations should also be seen, seeking to ascertain in a general way the same facts as mentioned for the orchard and nursery. The facts thus collected should be furnished to the press from time to time, and finally published in your volume of transactions. You may say this a great task—true, but what is it as compared to the same undertaking in our sister state, (Illinois).

And of how much more value will it be to this state than that. How much more we need the information this committee can give us than Illinois does its committee is easily measured by the relative progress of horticulture and the knowledge of the same in the two states.

There probably would be no trouble in finding men who would give all the time necessary for the work, but who would not feel like paying the necessary traveling expenses attending the same. For this purpose the legislature of Illinois grants that state an annual appropriation, and Mr. Flagg, a prominent fruit-grower of Alton, writes me, "it pays." For this purpose an appropriation of $500 would probably be sufficient for the coming year.

It is a fact apparent to you all, when you stop for a moment to consider, that of all the enterprises of the state, horticulture has wonderfully languished, and there has as yet been nothing done by way of an application of the sciences to it, or to show to the world the knowledge, for the benefit of horticulture, which might be gained by a study of the natural sciences, horticulturally considered. Again, has anything ever been done to develop this state scientifically? Has entomology even a name in our midst? What do we know of the insects injurious to our crops, of those which prey upon our fruits; of our insect friends? How little the school boy, who hunts for the fun of it, knows whether he kills friend or foe as he takes aim at the feathered songster. Upon this subject, A. S. Fuller, horticultural editor of the New York *Sun*, says in the *Journal of Agriculture*: "It must be apparent to every observing horticulturist, that insects which are injurious are rapidly increasing. There is scarcely a flower, fruit, or seed which has not one or more insect enemies; and their depredations are becoming so numerous, that it is to be feared that many species of plants will have to be abandoned unless some efficient remedy is soon discovered. Our fruits have suffered most; but flowering plants and ornamental trees are injured more or less every year. To know how to successfully combat these enemies of our gardens requires a knowledge of their habits, and to obtain this information much time and patient investigation

is needed, more I fear than every horticulturist can command; therefore, we have to look to the professional entomologist for all the minute particulars regarding the characteristics of each family genus or species." What Mr. Fuller says of the east applies with redoubled force at the west. We need a state entomologist, to whom all questions might be submitted regarding this subject of vital interest to us all, whose mission should be to examine into the habits and peculiarities of such insects as might be sent him; to give in detail through the press and printed reports, their peculiar habits, mode of living, noting with distinctness every trait; so that we might know friend from foe, with some of the remedies or means of ridding the state of the numerous insects injurious to vegetation, and at the same time to tell us all about such as are beneficial, that their lives may be spared. The legislature should be asked to grant the state horticultural society power to appoint such an officer, with instructions to report to this society, and to print said report, for general distribution.

The history of this society shows that nearly all its life has been spent in discussions and comparing the merits of different fruits, thereby forming a list worthy of extended cultivation, as well as trial. This was well. In this, individual experience was of great, even indispensable benefit and importance as a basis. Now that we may make more rapid progress, and no longer than possible grope in the dark, let us add to the science of entomology that of botany. To this, as we gain age and strength, may be added geology, meteorology and climatology. Any and all will prove of value to the tree planter, but we now deal with botany, as of first importance to horticulture. A thorough knowledge of the botany of Wisconsin will throw new light upon horticulture. Of the many wild plums and apples indigenous to this state, who can tell but that some may be found better than our best cultivated sorts. And out of the multitude of localities where these fruits are found, we need the knowledge of locality, soil and aspect. The evergreen forests of the north, deciduous trees everywhere, flowering plants in the depths of timber tracts,

and blossoms on the prairies, all have a history, which if well told will tell a tale of interest to every hamlet in the land, and be read by thousands who are looking westward for a place to spend their days. Aside from the gratuitous labors by Dr. Lapham, some years since, and printed in the different reports and periodicals, we have no written botany of Wisconsin. Other states are fast out-running ours, and it becomes us to look to our laurels, or the fact will tell upon us seriously ere we are aware where we are.

The day has gone by when it is expected that a life time of experience must be served as a sort of apprenticeship to fruit-growing. Science, knowledge, comes to our aid, and this, wedded to the already acquired experience, will be instrumental in much good. As life changes, so we progress. A well and authentic description of the botany of any locality cannot well be given without also describing the soil connected therewith. This given, and the adaptability of this to any given fruit tree or shrub, and who cannot discern the reliability of that certain track for the particular fruit of his choice. Then getting out of the beaten track of traveling by experience alone, let us call to our aid the sciences, and with this new demand and great necessity, invoke the assistance of the present legislature to further the cause. Believing that by so doing, we in asking and they in granting, will bestow a lasting benefit upon the future generations, who as they apply the knowledge gained by the study of these sciences to their labors, may more easily and effectually combat with the insect enemies, more readily supply to the wanting soil its proper food, and guard with greater efficiency against the fickleness of our climate.

The advantages to be gained by a botanical report with a proper record of the same, to be made or kept either by accurate drawings of plants, or preserved by drying and pressing or otherwise, specimens of every known species that can be found, is well expressed by Dr. I. A. Lapham, who writes your secretary that already "many of the plants in my (Lapham) collection are now scarcely to be found in the state, hav-

ing been driven out by the progress of improvement by which *May-weed, mullen, thistles*, etc., take the place of the native plants. The time is now at hand when my collection will afford the only evidence of the former existence of many plants in certain counties of the state." The "progress of improvement" of which he speaks is going on more rapidly now than ever before, and if a *few* plants are now extinct, soon a large proportion of our once numerous and beautiful native plants will pass away and the future has no history to tell the tale of what covered the face of our earth. Accompanying, or for the use of this survey, should be a room, where all the grasses and plants of the state and a memoir of the forest trees with drawings of the same, and also the preservation of wild fruits in spirits or otherwise, can be kept. Thus will the state be favored with an herbarium, which will form when opened to the public, a complete history of the natural resources of the state, to be studied and visited by every student of the country—and growing of more and more interest with every advancing age, and especially so to all those who desire to acquire a current knowledge of those sciences.

Of the advantages of the entomologist's reports and his labors we can only judge by estimate or comparison as made in other states. By the best authority, and of those who have given the subject much thought, it is estimated that "the injury done by insects to the various crops in the United States is three millions of dollars annually." Our own state is no more favored than others. Benjamin D. Walsh is doing good service in the insect field in Illinois, and the results of his labors are felt to a certain extent everywhere. Missouri has the services of C. V. Riley. New York calls to her aid the valuable services and experience of Dr. Asa Fitch, and it is estimated by those "familiar with the facts, that his labors in New York, by studying the character and habits of insects, thus enabling him to suggest remedies for the evils they produce have already saved to that state annually, the handsome sum of $50,000."

Should our state interests lag? Can we sit idly by and see

this great destruction going on? Rather, shall we not honestly and urgently press our claim and the great necessity of the same before our legislature, till they too will see as we do, and pass a law for the immediate examination and reports, as mentioned above?

Adjourned to Wednesday, 9 A. M.

SECOND DAY.

WEDNESDAY, Feb. 10, 1869.
9 o'clock A. M.

The meeting was called to order by the vice-president, J. C. Plumb, in the absence of the president.

Opened with prayer by the vice-president.

On motion of Mr. Greenman, from the committee on the conduct of business, Thursday evening was fixed upon as the proper time to hear the address by Judge Knapp.

Judge Knapp, from the committee on the address of the president, and report of the secretary, reported a memorial to the legislature, asking that body to give annually $1,000, to be expended in making experiments in the horticultural garden, on the state agricultural farm, collecting information, etc.

Remarks were made by several members upon the necessity and propriety of the grant being made in aid of the society.

Mr. Stickney hoped that the aid asked might be allowed; and that the entire fund would be expended in developing experiments upon the five acres secured to the use of the society on the agricultural farm. He considered this the center or nucleus around which everything would in the end center, and where all might be proved and their merits tested. Such as are good recommended, and the bad condemned.

Mr. Cover thought that it was very essential to have the appropriation made for this object by the state. The design was to benefit the whole people, and not individuals. To make the experiments that were required, funds were needed, and we could not depend upon the amount of members' dues. This

experimental garden was a favorable opening; and it was exceedingly proper for the society to lay hold of it and press the matter, and prove to the people what can be done.

Mr. Stickney thought we could scarcely over-estimate the value of the experiments that might be conducted on this ground. New things are continually presented to the horticulturist, which ought to be tried. Now these tests and trials must be made by the hundreds of men into whose hands they may fall, and if they fail, there are the hundred failures, and hundred losses. With the experimental garden all can be proved in it, and the good, if the thing be worthy, will be for the whole, and the failure, if there be one, will be single, and be borne by all.

Judge Knapp referred to the location of Madison as to its position in regard to the cause of the varying isotherms of our climate, and showed that few or no places in the state were more favorably located on which experiments could be made. Trees that would succeed at this point, would be most likely to succeed over a very large extent of country.

Mr. Plumb doubted if any other tract of land in this state combined greater advantages than did this garden; or was better fitted for the carrying on of these experiments. They ought to be made if it were possible. They would be of infinite value to the state, ten times more than the amount asked for.

The further consideration of the memorial was postponed for the present.

The business committee reported the next order of business, to be the reading of an essay by Mr. I. Gould of Beaver Dam, "on transplanting trees."

At the close of the reading, Mr. Gould produced a very large native crab, said to have originated in Indiana; and said it was not a Soulard, but they might call it a *Goulard*. He did not believe either was good for anything. He also showed an apple he had found in Minnesota, where it originated, which he called the *Rubicon*. This he considered about all that was desirable in an apple for the northwest. The tree was perfectly hardy, and the apple was fine flavored, of good size and a late keeper, as it had not yet reached its season.

Mr. Stickney, in commenting on the position taken by Mr. Gould, in planting out large trees, said that he could not agree to the position. He rather agreed with Phœnix and Douglass, that if by an earthquake or other means, all trees of over five years of age could be sunk and destroyed from the nurseries, the cause of fruit-raising would be benefited thereby. He would not rear such trees, nor offer them to his customers.

Mr. Gould would not recommend large trees to be carried long distances; but for short distances he was in favor of them, and they paid him for all his care and trouble in rearing them. And he thought he was doing good for "the cause of God and humanity."

All the other nurserymen present agreed with Mr. Stickney.

Mr. Tuttle, not being prepared to read any paper at present, made some verbal remarks, highly favorable to fruit-raising in this state, and encouraging to the orchardists therein.

Mr. Stickney said he had visited southern Illinois, on a tour of observation, and he was convinced that there were better chances of success in Wisconsin than in southern Illinois. He found there, men depending entirely upon fruit, and when it fails them, they are as poor from loss of crops as are some of our farmers who relied solely upon hops. They might as well take their chances here as any where, on uncertainties.

Mr. Peffer said he had endeavored to grow some peaches; at least he had always kept some trees in his grounds; but he had always noticed whenever the thermometer fell below 16 degrees below zero, that the peach buds were surely killed. And whenever a winter passed in which the thermometer does not reach that point, then his trees will bear. The trees are not killed when the flower buds are killed.

Mr. Tuttle said that he found that there was great difference between the list of fruit growing on timber lands and on open prairie, and he had noticed several degrees in the difference of temperature, depending on the location, whether rolling or level, protected by trees or unprotected.

Mr. J. C. Plumb then read an

ESSAY ON FRUIT GROWING ON PRAIRIE SOILS.

That the "prairies are not adapted to fruit-growing," has become almost an axiom in the minds of perhaps a majority of the people of the northwest, and, in view of the many failures, this is not a strange conclusion, yet it is one which is so unfortunate in its tendency and results, that, if by careful study of the nature of the case, and patient, persevering effort, it may be proven practically unfounded, and not a necessary misfortune of this great garden of the world—the prairies of the west—then it is worth a life's study and toil, to demonstrate how to adapt fruit-growing to the prairies.

Without stopping to inquire how these great interior tables came to have the accumulated vegetable mould of other geological periods, spread out in such lavish profusion, over hill and valley, I shall briefly designate the nature of the prairie soils, as found in this immediate northwest, and endeavor to show their adaptation to fruit growing.

These soils are of so similar a nature as to be classed as one, being composed mainly of alumina and silica, with a large per cent. of mould, and rich in the phosphates. This is essentially the cream from the great perennial summer of a past age, and happily for our time, it varies its proportions, from an excess of mould, to a large per centage of silica, or sand, and varies in depth from a few inches to many feet, where the subsoil is of the same nature, but of lighter color, from the absence of humus, or decaying vegetable matter of the present age.

This soil rests upon a base of many grades, of which the gravel drift is most common; also, lime and sand rock, with us, and in the state of Iowa. In some parts of Minnesota the prairie soil rests upon a base of blue clay, which rests upon a tight bottom, as in the Blue Earth valley at Winnebago City. Now I shall assume that the prairie soil, as first described, possesses all the elements of a perfect structure in the fruit tree, but that there is a tendency to excessive and prolonged

growth, beyond the limit of a healthy ripening and perfection of wood necessary to endure the severe changes of winter.

These two points fixed, we can readily adapt our practice to secure the desired end, by choosing such locations as have had their strata of soil resting upon a bed of gravel, or rock, so that there may be a perfect drainage to the surface and subsoil. In case this may not be, then to the highest ground and best natural drainage attainable add surface-ridging by successive plowings before planting. Plant upon the crown of the ridge, and preserve these ridges by all the after-culture. To this add under-drainage of all lands that do not readily permit the water to pass through them, and subsoiling all the spaces not occupied by the roots of the tree, every five years after planting, not omitting to subsoil, in the most thorough manner, the whole ground before planting.

Soils retentive of water must be well drained to the depth the tree roots are expected to go, and is as necessary for the light-bottomed prairies as for the clay banks of the timber land. It is not a defect in the soil, as is often the case in many of our sandy districts, that stand in the way of perfection in fruit-growing on the prairie, but an excess of a good thing. Therefore the excessive and prolonged growth must be prevented.

The prairie planter has been too long in ignorance of the wants of the fruit trees. In fact many former teachers in our profession have said, in good faith, "that the soil that would grow good corn, was good for the apple," but dear experience has taught us that too much of a good thing may become an injury, by absolutely preventing the first condition of hardihood, *maturity*.

Among the artificial means of securing matured wood growth, the most practicable is that of root-pruning in early autumn. This secures a partial disconnection of the trees from that soil, and a ripening of the young wood. But as this is practical only with young trees in the nursery, or in the amateur's garden, we must look to the two grand natural means of securing the desired end, found under the head of

location—FIRST, with respect to *soil and culture*, and SECOND, with respect to *atmospheric influence.*

Of the soil I have spoken, and we must take it as we find it, choosing the dryest and leanest of the prairie soil for the apple, and all other fruits which are apt to suffer from excess of food in the soil. A few words about culture, which should be so conducted as to secure the complete ripening of the wood. Thorough culture, early in the season, with very little or no stirring of the soil after midsummer.

Mulching is the perfection of culture on the prairie, and with the abundance of straw and litter they afford, is worthy of constant and permanent use, provided always, that the trunk of the tree should be well banked with earth in the fall, to prevent the mice from eating off the bark.

I will now speak of the effect of atmospheric influences. An *elevated, cool* aspect for the orchard, will do much towards inducing an early maturity of the tree. As I have often said and now would reiterate, the cold winds of autumn and winter are among our best friends; inducing an early maturity, and preserving an equal temperature at times of extreme heat and cold.

This position, taken from observations made in 1856, in this state, I have seen no reason to forsake. In fact I have found that about the only good and promising prairie orchards are situated on the cold sides of the swells and bluffs, except in rare cases where the orchard has been planted in a very thin soil, lying upon a gravel or limestone base.

Fortunately for the fruit-grower, these two grand natural means of securing maturity and hardiness are so intimately associated in the formation of this prairie, that in all of the rolling districts, there is an abundance of the finest locations this latitude affords, both in respect to soil and aspect.

The subject of protection to prairie orchards is one of much importance, but which is receiving so much attention from more ardent advocates, that I need only say that we should not rush to either extreme of close protection or naked exposure.

The prairie-planter needs a thin screen to break the force of the wind, both summer and winter; but if to the hot-bed soil of the prairie we add a close green-house atmosphere, we will have a luxuriant protracted growth of unripened wood, unfit for the extremes of our long winters.

The southwest wind is the only one we need to protect from, as its extreme force, in the growing season, often mars the tree and casts the fruit, and its extreme dryness in the spring is very exhaustive of moisture and vitality. Still it is questionable whether the winds from this quarter are not productive of more good, in the main, than evil. Therefore, while I would urge to the utmost, enthusiasm in timber-growing, both deciduous and evergreen, on the prairies, to shelter and protect man and beast, I would caution against any course of culture or protection which will defer or prevent that perfect maturity and hardiness which is the first need of the tree that must inevitably be exposed to the extreme of our climate.

When the principles here named shall be fully understood and applied, then may we see success with the apple on the prairies, as on the poorer lands of the timber.

The subject of revision of the apple list being under discussion, a remark was made that certain trees were liable to

APPLE TREE BLIGHT.

Mr. Willey said that he had observed this tree blight, and had satisfied himself that it was the work of an insect. He had seen the animal; and others could do so who would take the pains to hunt for it.

Mr. Lawrence confirmed the insect view of blight, and described it as a small worm not larger than a small needle, that entered the wood on the new growth, at the base of the leaf, and descends through the pith, where it could be found. This causes the branch above it to die, and the immature leaves remain on the tree during the balance of the year. He knew of no other remedy, except to cut off such limbs just below the worm and burn them, and thereby destroy the larvæ. He had

observed that they were more numerous on some sorts than on others. The Golden Russet was most affected.

Mr. Greenman had not seen the animal, but the Golden Russet had so blighted with him that he was disposed to throw it out as a diseased tree.

Mr. Adams was of the same opinion and for the same cause, he would now examine for the rascal.

LIST OF APPLES.

The first list of five hardy apples was left, as fixed upon last year, adding thereto the Westfield Seek-no-further, viz: Red Astrachan, Duchess of Oldenburg, Fameuse or Snow, Tallman Sweet, Golden Russet.

Mr. Stickney had objections to the Astrachan as not entirely satisfactory in his section of the state. His trees were nine years old, and did not fruit sufficiently full. Perhaps it was owing to their want of age, as he understood it did better when older.

Mr. Tuttle's trees came into bearing early and were perfectly satisfactory. The only fault he could find on that point was, they bore too much, even to the detriment of the trees.

The Westfield Seek-no-further, which had been placed last year in the list for trial, was spoken of by Mr. Plumb, who proposed to transfer it to the list of very hardy trees, as an apple that could not be dispensed with, and would be satisfactory to the grower.

Mr. Smith had the tree and he considered it as very worthy of the place proposed.

Mr. Tuttle said the tree was a slow grower, bears sparsely at the first, and unless planted in old mucky ground it does well. It was, however, a better tree for all soils than the Yellow Bellefleur, which was too tender in some localities. He considered the tree as very hardy.

Mr. Kellogg said the Seek-no-further was more subject to damage in his nursery than the Bellefleur.

Mr. Lawrence thought the Seek-no-further much ahead of the Bellefleur, both as a hardy and desirable tree, as well as a fruit.

The *second list* was then taken up, viz: Sops of Wine, Fall Stripe, St. Lawrence, Perry Russet, Red Romanite, Yellow Twig, Blue Pearmain, Plumb's Cider, Fall Orange and Yellow Bellefleur.

Mr. Lawrence said he did not think very much of the Perry Russet.

Mr. Kellogg had never fruited all the kinds named, but he thought very favorably of them.

Mr. Stickney asked if the Bellefleur fruited well. He had never seen a full crop on the tree in this state. To this it was replied that young trees did not bear full, but the crop increased with age. As to the quality of the fruit it was highly spoken of by all present.

Mr. Kellogg had no desire to change the list; but he wanted to hear something about the Blue Pearmain.

Mr. Peffer said it was hardy with him, and he found it fruiting well.

Mr. Plumb said it was a tree that would never go back on its owner; was always good and bore well.

Mr. Stickney had never seen a crop of fruit on the tree, and was disposed to doubt its value in this state.

Mr. Plumb said the Cider was proving hardy all over the country. He had correspondence from Minnesota, stating that it is as hardy there as the Duchess of Oldenburg.

Mr. Adams said it had proved highly satisfactory with him in northeastern Iowa, some 700 feet above the Mississippi; and was the best rooting tree he ever saw.

Mr. Tuttle thought favorably of it, and it did remarkably well with him in Sauk county.

Some discussion arose as to the true name of what has been disseminated as the Fall Stripe, whether it might not be the Sexton. All agreed they could see no difference. Mr. Plumb said he had traced the tree to Massachusetts, where it went under the name of the "English Stripe." Mr. Willey had procured scions from central New York, in 1854, by the name of Sexton. All these names were considered synonymous.

The list was passed as arranged last year.

The *third list for trial* was then taken up, viz: Lowell, Fall Queen, Tetofsky, Bailey's Sweet, Sweet June, Carolina Red June, Northern Spy and Ben Davis.

Mr. Cover, speaking of the Ben Davis, said he had trees some 12 years old, in bearing. It had a very fine appearance in the nursery; was inferior to none in that place, except the Haas. Had heard that the apple was a very long keeper, but had no personal experience. No tree could be more highly recommended as a tree than the Ben Davis.

Mr. Plumb said that in McHenry county, Illinois, there was no more desirable tree. Mr. Skinner of Marengo, said he looked upon it as one of the best. The first year of its fruiting, the apples are apt to be small, but they increase in size in after years.

Mr. Adams had trees planted out five years, which had borne fruit for two years, and it was all that he could expect.

Mr. Kellogg objected to the Carolina Red June, as a poor apple.

Mr. Tuttle said the Haas and Fall Queen are different apples. He had both kinds. The one he had placed on the table was the Haas of Northern Illinois. This was a very valuable sort, and he thought favorably of it for Wisconsin. The Haas of Southern Illinois would not be hardy here. As the Seek-no-further had been removed from this list, he would move to fill the place by the name of the Early Joe. He knew of no better tree. It was hardy, an early bearer, grew slowly, and therefore was not very profitable for the nurserymen, but was exceedingly valuable in the orchard.

The Early Joe was added to the list.

A recess was then taken to 2 o'clock P. M.

2 O'CLOCK P. M.

APPLES CONTINUED.

The meeting was called to order by the president.

During the recess the members of the society had spread large quantities of apples in variety on the tables in the rooms, showing what kinds of apples could be produced in this state,

and how well they could be grown. A list of these will appear in the report of the committee on fruits. Among others were the seedlings grown by Mr. Peffer, and on which he had received the premiums at the late fair.

Judge Knapp moved that one of these, and the one pronounced the best, and to which after three years exhibition had been awarded the first premium, be called the Pewaukee; which prevailed. The apple was recommended to be placed on the list for trial.

Mr. Tuttle spoke very highly of an apple he had recently found on the farm of Mr. Walbridge, in Sauk county, and which he found growing in some of the most exposed situations, and on poor land, but it was as far as he could observe, perfectly hardy, an abundant and regular bearer. He knew scarcely anything of its history, but he had found it on this farm, and from that fact he called it the Walbridge. He had no trees for sale, but had a few scions he would willingly distribute to the members of the society.

On motion, a committee to examine the fruits on exhibition were appointed by the chair, consisting of Messrs. Kellogg, Peffer and Greenman.

A communication from Mr. Kinkst of Bad Ax, Vernon county, relating to a seedling apple raised by him in that county, from a seed planted in 1848, in best condition in April, tree hardy, even excelling in that the Siberian crab; bears every year. A specimen of the apples was also sent, but it did not meet with much favor as to quality of fruit. But shows that varieties may yet be found that will be able to resist all the vicissitudes of our climate. The whole matter was referred to the committee on fruits.

LEGISLATIVE AID.

The report of the committee on the president's address, and the memorial asking for legislative aid in conducting the experimental garden, was taken up, the question being on its adoption.

Dr. Chadbourne, president of the university, coming in, was called upon for his views on that matter, who stated that he

commended the effort of this society, and could but hope they might so press the matter upon the attention of the legislature, that the aid asked for might be granted. The university would be glad to undertake this work, but it had no means. All its funds are tied up in the lands granted by the United States, and which at the present rates of sale would require forty years to sell. Up to the present time lands enough had not been sold to pay the absolute salary of a single professor in the institution. The object was worthy, and ought to be prosecuted, but the university was powerless to assist in carrying it forward.

The memorial was unanimously adopted, and on motion, a committee was appointed to present the same to the legislature and urge its passage.

FINANCIAL AFFAIRS OF THE SOCIETY.

The treasurer's report was then read and received by the meeting. This showed a balance in the hands of the treasurer of $180.25.

Mr. Findlayson moved that the executive committee be instructed to draw upon the treasurer for the amount of the premiums awarded for seedling apples; which prevailed.

Mr. Stickney moved that an order be drawn on the treasurer for fifty dollars, in favor of O. S. Willey, for his services in preparing the report of the transactions, and other duties as secretary; which prevailed.

Mr. Stickney then read the following

ESSAY ON GENERAL NURSERY MANAGEMENT.

Mr. President and Brother Horticulturists:

In thinking what I might say to you to-day, I have reviewed in my mind all the nurserymen of my acquaintance, and all the nurseries I have seen, and have endeavored to compare ours with other business men; and, as Widow Bedott said of humanity in a religious view, I am forced to exclaim of ourselves as business men, "We are all poor critters"; failing to

realize the greatness and importance of our calling; failing to do our duty even as far as we fully understand it; and failing to get the greenbacks, which we so richly earn and deserve.

The wants of a million farmers, in the way of agricultural machinery, are promptly supplied by enterprising mechanics, who call to their aid the necessary capital, employ the necessary labor, and so systematize both manufacture and sales as to benefit the capitalist, the laborer, and the farmer, and secure liberal profits for themselves. Why should the call for trees be less promptly met? Think, for a moment, of the homes in city, village and country, to be supplied with ornament, shade and fruit. Think of the extensive orchard-planting for commercial purposes; of the long lines for wind-breaks and the broad plantations for timber; include in this view, Wisconsin, Minnesota and northern Iowa, which is the ground particularly accessible to us. Do we fully estimate the amount of stock that might and should be planted in the next five years? Do we realize how much the amount actually to be planted depends upon the manner in which we keep the subject before the people? And can we imagine where all this stock is to come from?

If it is brought one or two thousand miles to be sold and planted here, we suffer a loss of a fair profit on the growth and sale of so much stock; and we allow the people, whom it is our duty to supply, to be taxed with freight, agents' expenses, etc., and most probably to be so swindled in quality, as to be, at the end of a year's effort, no further advanced than at the beginning. Is this what the country has a right to expect of us? Do the mechanics, merchants, and professional men of the country respond as feebly to the calls made upon them? In short, do we appreciate the greatness of our work?

That there is a general interest throughout the country on the subject of fruit and trees, we cannot doubt. Let a man talk "trees," almost anywhere, and though his talk is impracticable and absurd, he has attentive listeners and some believers.

Now, whether worthily or otherwise, we stand before the

people as teachers, and this lively interest is to us like clay in the hands of the potter, to be fashioned as we will.

How important, then, that all our teachings be sound and practical; such as will lead to sure success. How should all our acts in meetings like the present, be stripped of all "ax-grinding," selfishness, sectional feeling, or personal ambition; and how carefully should we consider all the qualities of fruit or tree before recommending for general cultivation. Thus may we fashion the future forests and orchards of the country.

I do not forget the many and valid excuses that may be brought to cover our short-comings. When I forget the flank movements of frosts and droughts practiced upon us, my memory will be poor indeed. When any of us forget the lessons we have learned, and so dearly paid for, we may take it as a hint that we are no longer fit for the active business of life.

That we, as a class, are full of the qualities necessary to the successful nurserymen, I cannot doubt. Who has more of driving energy? Who have pursued their one object with greater tenacity, or surmounted greater obstacles? Let us think of the past as an experimental school, wherein we have learned pleasing as well as bitter lessons, paid our full tuition, and from which we are now to graduate with enlarged views of our calling, and the necessary skill and knowledge to put those views into successful practice.

Ever uppermost in our minds is the question, what shall we plant? This is all important to us, and, though sometimes forgotten, equally important to our customers. Yes, more important to them, because with us results are reached in two to four years, while with them, the good or poor qualities run through many years.

Particularly important is this question as it relates to apples, because of these is the bulk and weight of our business, and of the farmers' planting. Observe any orchard of twenty varieties, and we shall find five to eight of the best kinds bearing more fruit and bringing more money than all the others. In view of this fact, I ask, why plant the twelve poorer kinds? If

we should strike these from our lists, should we or our customers suffer loss or inconvenience? Would it not rather be the removal of a burden? True, the enthusiastic amateur or nurseryman may take pride in his thirty or fifty kinds, as a collection, but this has little to do with the raising of trees or fruit for profit or as a means of support.

In consideration of their early maturity, and success in nearly all localities, I am led to think that we give the small fruits too little attention. I do not mean the wonderful novelties that flood us in such abundance, but the older and well proved. A few years ago, a brother nurseryman raised as an objection to going more largely into small fruits that, to make sales, we must be constantly getting up something new. In practice, I have not found this so. As an instance in proof I will mention grape, cherry and currant varieties, twenty years in our hands, yet of these we have demand for 30,00 to 40,000 annually, and have never yet had enough. Again, in strawberries, the demand for Wilson's is for thousands, while Jucundas, Agriculturist, and all the big guns of the past five years, are sold only by dozens or hundred. It would seem to me to be sound sense, a help to our business, and a benefit to the country, to take a few of the best varieties, in each class and push them with the same energy that the novelties are pushed. True, we get an occasional grain of wheat from all this over-praised chaff. But, instead of pushing along both chaff and wheat to our customers, and thereby taxing and disappointing them, should we not ultimately gain both honor and money by taking time to separate them, and selling only the grain?

On the departure of one of our best nurserymen to an enlarged field of labor, I asked him if the trouble of his present work were not enough? If he must needs undertake a thing so much larger as to kill him outright? I think his reply hits, and should enlighten nearly or quite all of us. It was as follows: "I have thus far been a slave to my busines, being field-worker, foreman, salesman, packer, book-keeper, and porter; I am now going to a business that can support a man for each of

these offices." Now this certainly looks pleasant in theory. Is there any good reason why we may not, at least in part, reduce it to practice? The perfect system of manufactories we may not have. Weather, soils, and other things prevent, but system sufficient to accomplish much greater results with far less effort, we surely can and ought to have.

In the large nurseries about Rochester, I have noticed that they used labor far more lavishly than we do. There is, about all they do, an amount of patient pains-taking and thoroughness that surprised me. We cannot doubt but that this is a large element of success, and that as such it pays. Of course it would pay us as well, not only in dollars and cents, but in the stimulation and encouragement of success instead of failure.

Through want of this thorough pains-taking we suffer great loss. Take, for instance, any block of apple trees in any nursery. We find at least ten, and in many instances, twenty or forty per cent. of vacant places. Every vacancy is a positive loss of ten or fifteen cents, and the aggregate is large; quite too much to lose by neglect or indifference.

I have sometimes thought it would be better for each to take two or three articles and make specialties of them, thus securing the thoroughness and close attention so necessary to the best results. Certain it is, to my mind, that he who undertakes anything without this thoroughness, makes only slow and laborious progress. With it, we are masters of our business; without it, we are slaves. The necessary details will suggest themselves to each of us. Now let us decide the question, shall they be brain pictures, or paper sketches only, or will we put them in practice.

By our works and teachings, we have done something to turn public sentiment into the right tree-planting channels, but by example have we done what we might in that direction? Merchants and tradesmen have their show windows filled with beautiful workmanship, to stimulate and direct public taste. Where are our show windows? Where are our grounds, laid out in an artistic manner and planted with trees,

shrubs, and flowers, that are model specimens of their kind? Except in one instance I have yet to find this in any western nursery. When we think of the deep and lasting impression such examples make upon our own minds, we cannot doubt the power they would give to us to improve the tastes of others.

I do not think it strange that these things are not already done, but I do think that the time has now come for us to set earnestly about them.

In this there is no necessity for rare or curious things; rather let our grounds show the capabilities of things within the reach of all, and of manifest use to all. Neither, if circumstances do not favor it, do we need broad acres, or a large outlay of money.

In front of a tent on the camping ground of the first regiment Wisconsin sent to the war, I saw an example of gardening skill, that illustrated the beauty of simplicity, and showed what might be done with the simplest materials. It was a miniature garden cut from the green sod; the figures of the most perfect symmetry, bordered with smooth pebbles from the lake shore, and ornamented with a few mosses and a few simple plants in pots. The whole forming an object of beauty worthy of imitation in places of far greater pretensions.

And so may we, with but a fraction of the beautiful things of other climes, produce results that shall astonish even ourselves.

The happy and successful man, the man we all like, is he who makes the most of the things within his reach. With this in view, if any doubt or hesitate about the possibility of accomplishing the things herein suggested, with the means at command, let me ask, with our splendid evergreens and noble forest trees; with a liberal variety of successful small fruits, well in hand, and a firm and substantial background of crabs, and minor plums, why stand irresolute and idle, with a longing wish for the fruits and flowers of more favored lands? Were we in Cincinnati, feasting on delicious peaches, we should still lack the oranges of Florida, and thus would our longings

remain unsatisfied. Rather let us accept the situation, and fight out the battle on our present line.

The reading of this essay was followed by interesting remarks from Messrs. Plumb, Kellogg, and Stickney, upon the subject so ably discussed in the essay; and they gave many instances of well-kept grounds and nurseries they had visited.

Adjourned to 7 1-2 P. M.

7 1-2 O'CLOCK P. M.

The meeting was called to order agreeably to the adjournment, when, on motion of Mr. Lawrence, the following were appointed a committe on the nomination of officers, viz: Messrs. Lawrence, Plumb, Greenman, Stickney and Kellogg.

AMENDMENT TO CONSTITUTION.

Mr. Lawrence offered the following, viz:

Amend art. 4 of the constitution, by striking ont the following lines: "In addition to the foregoing officers, the presidents and secretaries of all local societies shall be deemed *ex-officio* members of the executive board," and inserting the following: "The presidents of all local societies shall be deemed honorary members, and *ex officio* vice-presidents of this society."

Which after consideration, was carried.

HONORARY MEMBERS.

On motion of Mr. Stickney, Gov. Lucius Fairchild, Dr. J. W. Hoyt, D. J. Powers, and Judge J. G. Knapp, were elected honorary members of this society.

On motion of Mr. Lawrence, the executive committee were instructed to fix the premium list for the annual fair.

And the regular business of the meeting was then taken up, when Judge J. G. Knapp read an able paper upon the climate of this and the neighboring states, tracing the extremes of heat and cold, moisture and drouth to their causes, so far as known at present; and urging the necessity of further observations, and collections of facts, as a means of counteracting the effects of those extremes.

The secretary then laid before the meeting the following communications from Samuel Edwards, president of the Northern Horticultural Society of Illinois, and others:

LA MOILLE, Bureau Co., Ill., Jan. 20, 1869.

O. S. WILLEY:

Esteemed Friend:—I am under obligations to write, *very briefly*, for your meeting on the 2d proximo, on evergreens for orchard screens. Our first trees were set some twelve or fifteen years since, and were White Pine, which answer well. The first Norway Spruce screen for this purpose were set in the spring of 1860; a double row, ten feet apart, and the same distance in the row, alternating trees in one row opposite the space in the other. They are planted on all sides of the orchard, and fifteen rods apart; the rows running north and south. A single row is set in the place of a row of fruit trees.

A pear orchard of near 500 trees has smaller squares, divided off by evergreens. They appear to endure our winters much better when thus protected. Scarce any apples are now planted here, except such as endured the hard winters of '55 and '56, but I am beginning to set of some of the best varieties which were injured then, and am confident, with the shelter, and working in limbs on hard stocks they will succeed.

Apple and pear trees among evergreens, have here borne full crops, when others standing near, without protection, had most of their blossoms destroyed by spring frost. As pear trees are liable to die from blight, it is my purpose to replace them with evergreens.

Many of our farmers are buying evergreens of small size, by the thousand and growing them for screens. Whenever they are generally planted, we will see their full benefit in a marked amelioration of the severity of our winters. A perceptible change is already seen and believed to be occasioned by our fences, orchards, groves and cornfields.

Wishing you a pleasant and profitable season, with a cordial invitation to send a delegation to our meeting at Aurora, 16th, 17th and 18th of February, I am in haste, Yours, very cordially,

SAMUEL EDWARDS.

RIVER FALLS, Pierce Co., Jan. 25, 1869.

O. S. WILLEY, Esq., Madison, Wis.:

DEAR SIR:—In answer to yours of Dec. 10, 1868, I cannot speak of that success in fruit-growing that would be pleasing to me to give. There have been a good many trees bought and set in this county, for a number of years past; a few are doing well, but the larger portion are worthless. A few have planted and taken care of their trees, but the larger part have been planted and left to take care of themselves; you can tell the consequence.

So far as my observation extends, the Duchess of Oldenburg stands at the

head of the list for hardiness. I cannot see but what it stands the climate as well as the crabs, although it does not grow quite so fast. Is looks healthy and is beginning to bear. The Astrachan, Fameuse, Perry Russet, Golden Russet, Sweet Pear, and Talman Sweet, have stood pretty well. I think these are the most reliable. Those that have set the Tetofsky speak well of it.

The Transcendant and Hislop Crabs do finely and bear abundantly; the Tradscendant bears a little the best, so far as my observation extends. There is quite a call for these large crabs. People think they make quite an apple, and are anxious to have them, as they make good pies, sauce, and are quite good to eat, where they raise no others.

We have no pears or cherries here; of plums none but the wild ones, those we have in abundance. Our small fruits, such as strawberry, raspberry, gooseberry and currant do nicely. The Wilson strawberry and Houghton gooseberry take the lead.

Our climate is different here from what it is in the south or east parts of the state. The atmosphere is dryer; not near so much rain. Nothing uncommon to have the thermometer down to 30° below zero in winter, and but little snow, and in summer as high as 90° to 100° and even more in some places. Our soil on the prairies is a loam, varying from a sand to a clay. In the timber and on the bluffs more clay. On the prairie, sand and sandstone underlie the soil; under this limestone. Our water for wells is found mostly in the limestone, from 40 to 100 feet deep. Don't think trees have any trouble with wet feet on the prairie.

In looking among my trees, I find more trouble from malformed crotches than from the climate; at least so it looks to me. Some varieties, for instance the Autumn Strawberry, wants to grow all crotches, while the Duchess has but very few. I have strong hopes that we shall succeed in raising some varieties of apples in this latitude. Nothing like *trying* and keeping at it. I hope you will have a pleasant meeting and be able to give us some good advice. I wish I could be present, and should be happy to hear your discussions.

Respectfully yours,

MATHEW D. PROCTOR.

DARTFORD, Green Lake Co., Jan. 31, 1869.

O. S. WILLEY,

Secretary of the Wisconsin State Horticultural Society:

DEAR SIR—I find I am a little too late in responding to your request to report on the condition of fruits and fruit trees in this county. I was thinking the meeting occurred a week from now.

Much might be said on this subject, but I do not think it advisable to use many words at this time. There is a very different state of feeling in regard to the whole subject than there was a few years ago. There had been so many failures from want of experience and knowledge of what the climate and soil of this state required, that failures were inevitable and should have been expected and provided for. It is not strange that men that set fruit trees as they would set posts and treated them afterwards in the same way, be

came discouraged, and believed in time, that Wisconsin would never be a fruit state. A better state of feeling prevails now; there is no discouragement in this county. There is no man in this county, of any intelligence, but knows that certain kinds of trees will succeed with proper care, and that certain other kinds will fail, under any circumstances. Not that every man, or indeed any man knows, *all* of the varieties that are thus sure of success or failure, but a sufficient number of varieties have been found to guide any man in starting an orchard or fruit farm.

It was a fine thought in the horticultural society to select that list of fine apples, against which nothing need be said. They are all known and appreciated in this county. One of them (Duchess of Oldenburg) was introduced at a very early day into this town by Wm. C. Sherwood, Esq., and there are few orchards in the county but contain more or less of them, and I believe it to be the most popular early apple in this part of the country. Of course the apple is the principal fruit here. Pears, plums, cherries and even peaches are grown to some extent. Everybody has a grape vine, but there are no vineyards in the county yet. Currants, raspberries and strawberries do well. Delaware and Concord are the favorite grapes, Wilson's Albany the most popular strawberry.

There seems to be two things required to make this a first class county, to-wit: a sure market and a few more failures of the wheat crop.

Perhaps I ought to say that the bark louse is known here, and blessings on the head of the man that shall provide a remedy for it.

Respectfully,

M. H. POWERS.

BERLIN, Dec., 14, 1868.

O. S. WILLEY,

Secretary Wisconsin State Horticultural Society:

DEAR SIR:—Agreeably to your request, under date of 10th inst., I will endeavor to give you some information in regard to the conditions of the orchards in this section of the state.

The apple orchards it is safe to say, are improving yearly, from the fact that the early-planted orchards contained many sorts of trees not adapted to our climate. They were mostly brought in here from the east by peddlers, and sold under the name of any sort desired by the planters, and consequently our first planting was mostly a failure; but now, having ascertained the kinds adapted to our climate, and our home nurseries being fairly established, the planter generally understands what sorts he needs, and obtains a good class of trees, mostly true to name. We have here some fine thrifty orchards which have been and promise to be remunerative to the owners, and to the inhabitants generally sources of health and pleasure; as nothing adds more to the attractiveness of home and country than an abundance of fruit.

What we need most now is an addition of a few new kinds of hardy varieties of late winter apples, of first quality, and it is worthy the attention of fruit-growers to endeavor to obtain from seedlings some new varieties just

adapted to our climate; and with a careful selection of seeds from our best varieties, this could without doubt be accomplished. The scale or bark louse still infests our orchards, but I think not so extensively as they did a few years ago. The only remedy we know of here is to keep the body and large limbs of the trees well scrubbed with strong suds or lye, and when the tree is not in leaf, and while it is moist with rain or sleet, dust on ashes and lime. The apple-worm, or codling moth, injures and destroys a large amount of fruit. The product of some apples is lessened, annually, probably one-half by this pest. Hoping that it will be of some benefit to apple-growers, I will state that the past season I accidently discovered that the codling moth has a great liking for vinegar; and acting upon the hint, I prepared several open mouthed vessels, with vinegar and water, and hung them in my trees. The first night's result showed that it was a success, as in some of the dishes there were as many as twenty or more of the millers, showing evidently, that the vinegar, to them, was more attractive than the fruit, and every night during the season, more or less were caught, the number gradually growing less. I also caught other insects, in variety, and among them was the beetle known as the Indian Cetonia, a chap who has a sweet tooth, and takes to sweet apples, musk melons and other sweet fruits. I feel confident that this remedy will lessen, if not destroy, many pests of the orchard in the shape of insects, for they seem to like the vinegar as natnrally as Nasby does corn whiskey.

Of pear culture little can be said, as but very few sorts will withstand our cold winters. The Flemish Beauty seems to be the hardiest and most productive. I have the new pear, "Clapp's Favorite," grafted on to the Flemish Beauty, and two or three other sorts, to test its hardiness, and to judge by its well ripened *hard* wood and its reputation to stand the cold in the eastern states. I anticipate that we can add another variety to our pears. Being two or three weeks earlier than the Flemish Beauty, and superior in quality, it will prove an acquisition.

Plums, excepting natives, prove almost a failure, in consequence of the curculio, and occasionally the killing of the fruit buds by our severe winters. About every third year we get a fair crop. Of native sorts we have a few good ones. A variety known as the Winnebago is worthy of being grown in every garden or orchard, yielding annual crops of good fruit and being proof against the curculio and other enemies.

After fifteen years' experience on this place in grape culture, I give the preference to the Delaware over all other sorts grown here, although the past two seasons the Iona has done well, and yielded splendid bunches of fine fruit, ripening up with the Delaware; but the early ripening of the latter, both in fruit and wood, makes it preferable to all others. It has the reputation of being a slow grower, but I find it the contrary, and when planted in our white oak opening soil, composed of sandy loam, underlaid with red clay and dug deep enough to mix the clay with the loam, and but little if any manure worked in, it proves to be a rapid grower and fruits early. The

valley of the Fox is probably as favorable for growing the grape as any section of our state, and the culture of it is being extended yearly. From the fact that the vine requires protection during the winter, it insures a crop every season. As yet no enemy or disease has shown itself here.

From close observation and experience, from year to year, I am convinced that to obtain the best results in growing any of the fruits before mentioned, the red clay is preferable to any manures that can be added to our soils. It produces a healthy growth and is sufficiently stimulating.

Cranberries. Increased attention has been given to this fruit, for the last few years, and as a general thing, the business has proved profitable. Our extensive natural cranberry meadows produce the finest fruit in the world; and, where proper drainage and flowage is given them, are more productive than the cultivated marshes on the Atlantic coast. There were shipped from here, in 1866, about ten thousand bushels of this fruit. The present season the crop has been small, in consequence of the heavy frosts early in September. On the whole, the business promises to be a source of wealth to those engaged in it, and as so small a proportion of the land is adapted to the growth of the fruit, it cannot be well overdone.

Respectfully, yours,

G. N. SMITH.

After the reading of these letters, Mr. Geo. J. Kellogg of Janesville, read the following

ESSAY ON STRAWBERRY CULTURE.

Mr. President—Too much cannot be said or written in favor of the finest fruit of its season, the strawberry. When under favorable circumstances it can be grown at the rate of two hundred and forty bushels per acre; it should be in every man's garden and grown by every one who has a spare rod of ground. This amount has been produced by the writer and without extra care.

Success is certain if the weather in May and June is favorable; there need be no loss of plants by winter-killing if the beds are properly mulched. When coarse marsh hay can be had for cutting, it is doubtless the cheapest and best, being free from weed seeds. A sufficient amount to shade the ground is all that is necessary, about one or two inches; and if left on in the spring, it will insure clean fruit for the market and table, and be a decided benefit in case of drought. By raking off part of the bed it will give fruit a few days earlier

than that on which the mulch remains. Examinations should be made as the plants are starting, and in some places it will be necessary to remove part of the mulch, unless more than usual care is taken in putting it on.

We attach great importance to mulching, believing that unless done at the proper time and well done, all previous labor will be fruitless. The proper time to apply the mulch is about the time of freezing up.

Beds should not be allowed to thaw without protection, as a very slight thaw will kill the crown of the plant. It is the crown that is killed and not the roots. Could we depend on snow as mulch, it would be safe and sure, but beds may be thus protected until March or April, and then all be killed.

Preparation of soil is a matter of great importance. Ground rich enough for ordinary garden purposes is none too rich for the *Wilson*, but many varieties will go to vines if the ground is too rich. Deep working is necessary, either with the spade, subsoil plow or with a common plow, twice in a furrow, with a man on the beam the second time round. Strawberry roots will penetrate to the depth of two feet, when the ground is in good condition, and deep worked beds will better withstand drought.

Distance apart to plant is a point on which doctors disagree. For garden, we recommend two feet by two; for field culture, four or five by two. Allowing the plants in the garden to cover the ground, and in the field one-half the ground, the first season, the balance of the ground the second season; after two crops, it will hardly pay to let the bed remain; some recommend renewal every year.

For renewing garden beds, spade under every alternate strip of 18 inches, and then allow the plants to cover the ground, and after the fruit is picked the following season, spade under the older strips, and so on as long as the bed can be kept reasonably free of weeds, and be made profitable. This plan of renewal we have never seen work well, by using the plow, as the ground is left either too uneven or the space

plowed is of too great a width. Cultivation in hills we do not recommend except for amateurs and fancy men.

Transplanting is often a source of loss and vexation, especially as done by most hired help, who scoop out a little dirt and double in the roots, leaving a portion on top of the ground. Putting a spade in the full depth of the blade, pressing it sidewise, and then seeing that the long fibrous roots go into the soil in something like a natural position, will give better returns than the careless mode usually adopted. Always remember that one dozen plants transplanted with a little earth attached to the roots, is better than a hundred from a distance without any soil. Therefore, set out a new bed every year, so as to keep the plants on hand. And do not wait to get the ground in just the right condition until it is too late, but keep planting. The strawberry ought to be furnished in our market at ten cents per quart.

What to plant is a matter of taste, no doubt, but this enlightened body of practical horticulturists, will make out a list for *general cultivation*, which will not need correction until the next annual meeting.

As yet we have found but one variety worthy of extensive and general cultivation. For *profit*, quality and flavor, we recommend the *Wilson*. It is just tart enough when the sugar and cream are added. We never knew a man, woman or child that refused a well ripened dish of the Wilson. Again we say, plant the Wilson for the *million* and for the *million bushels*.

There are many varieties worthy of extensive trial; many that succeed in certain localities; and we hope the time is not far distant when even the Wilson will be excelled. Let all try for this by producing and proving new seedlings.

Teach your children to plant; give them a bed—not in fence corners among weeds, but where they may be encouraged to succeed. Always remembering that clean cultivation is necessary to success.

At the close of this paper the subject of strawberries was taken up, and Mr. Stickney said that the Green Prolific was,

in every respect, and especially for quality, superior to the Wilson; but not as good for shipping purposes, as it was a soft berry.

Mr. Greenman concurred with Mr. Stickney as to the quality of the Prolific, except as to its productiveness. In that it was inferior to the Wilson.

Mr. J. S. Shearman of Rockford, Ill., said he thought very highly of it. He found it bears uniformly good crops throughout the season; and was of fine flavor; though it was a soft berry for transportation.

Mr. Lawrence said that Mr. Burr's New Pine is the earliest he has in his grounds, and in flavor far exceeds anything he grew. Next to that he placed the Agriculturist. When the snow came this fall he had on this last fruit and flowers, and thought with proper care it could be made a perpetual bearer.

Mr. Greenman had expended $25 for the Agriculturist, and had not received from it 25 cents in return for his money.

Mr. Stickney would place the Wilson first on the list for all purposes. The Russell was nearly its equal, or but a little behind it, except that it was softer when ripe. The Agriculturist bore about one-half as much as the Wilson, when all were treated alike.

Dr. Hobbins said he would grow the Wilson for selling or giving away, to such as know no better berry. He grew the Russell for his own taste and for his table. The Agriculturist was a good fruit, but a shy bearer. Still he would not be without it.

Mr. Stickney said he grew the Wilson, Green Prolific, Russell and Agriculturist, and he classed them in the order named, as to value.

Mr. Greenman inquired if sun scald had been observed to do any injury during the past year. He had lost many bushels by this cause; and on that account he had reduced his list of berries to three or four of the most hardy sorts; and unless they did better in the future he should cut the list down to one—the Wilson.

Mr. Plumb, for this cause, mulched besides. He did not

think too much mulch could be applied; or that it would kill the plants unless they were absolutely covered up.

Mr. Lawrence covered his with rye straw. When straw has been on all winter, he fears for the result, as he thinks more plants are killed by heavy covering with straw, than by cold winters.

Dr. Hobbins said that he always waited until after the first flurry of snow had fallen, and then he applied a little straw as a cover. This keeps the ground from thawing out fast and saves the plants.

The list of strawberries, as named last year was then agreed upon, adding the Green Prolic, viz:

For general culture.—Wilson, Russell, Agriculturist, and Green Prolific.

For trial, etc.—Burr's New Pine, Austin, and Brooklyn Scarlet.

WHAT WILL BE RECOMMENDED.

Mr. Lawrence then offered the following:

Resolved, That this society will not recommend or endorse any variety of fruit, vine, shrub or tree, for general cultivation, without the same has been thoroughly tested by members of this society, in different localities, at least two seasons; and then only, where the same is found worthy of special merit to the community at large, as to hardiness and quality.

Which was unanimously adopted.

A motion was then made and carried, that Mr. J. S. Shearman, of Rockford, Illinois, a delegate from the Northern Illinois Horticultural Society, be declared an honorary member of this society.

Mr. Shearman, being called for, returned his thanks for the honor just conferred, and said that he had just returned from a tour in Minnesota, and especially along the bluffs and rolling lands, and observed the fruit trees growing thereon. Many sorts of apples appeared to be doing remarkably well. He found many were experimenting with seedlings. Minnesota is becoming a successful fruit-growing state. Grapes have been successfully grown, and many sorts of strawberries, especially the Russell, which appears the favorite there.

COMMITTEE OF OBSERVATION.

On motion of Mr. J. C. Plumb, the executive committee were instructed to appoint a committee of five members to visit and carefully observe the cultivation of fruit trees and plants, successful varieties, insects and diseases, soil and modes of culture, and other items of interest to the fruit-growers which can be collected and presented for the benefit of the society and its interests.

The meeting then adjourned to the following day.

THIRD DAY.

THURSDAY, February 11,
9 o'clock A. M.

The meeting was called to order by the president, and a prayer was offered by Mr. Kellogg.

The committee on nominations made their report for officers for the ensuing year, and thereupon the society proceeded to ballot, which resulted as follows, viz:

President—Joseph Hobbins, M. D, Madison.
Vice-President—A. G. Tuttle, Baraboo.
Recording Secretary—O. S. Willey, Madison.
Corresponding Secretary—F. S. Lawrence, Janesville.
Treasurer—George A. Mason, Madison.
Executive Committee—J. C. Plumb, Milton; J. S. Stickney, Wauwatosa, and Geo. P. Peffer, Pewaukee.

Judge Knapp offered the following resolution, which was adopted:

Resolved, That the executive committee be instructed to make provision for a series of meetings, to be held in the villages, towns and cities of the state, and to organize local societies therein as far as po sible.

Mr. Kellogg offered the following, which was adopted:

Resolved, That J. S. Stickney, J. C. Plumb, and F. S. Lawrence, are hereby elected and appointed delegates to the Northern Illinois Horticultural Society, with power to appoint substitutes, and that we recommend said committee to take such fruit as is grown by members of our state society as they please, and which is now on exhibition.

Judge Knapp offered the following, which was adopted:

Resolved, That the executive committee appoint some suitable person to take charge of the experimental garden, and to conduct the management of the same.

REPORT OF COMMITTEE ON FRUIT.

The committee on fruits on exhibition reported that there was a very fine show of fruit, and in good condition, viz:

Mr. George P. Peffer of Pewaukee, Waukesha county, exhibited twenty-eight varieties of apples; thirteen varieties of seedlings, and one of pears, the Winter Nellis, of fine flavor, and in good condition. Several varieties of these seedlings are deserving of speciol notice, and particularly the one to which a premium was awarded at the state fair.

Mr. E Pearl of Pewaukee, had two varieties of seedling apples; and Mr. Isaac Smith of the same place, two varieties of seedling apples.

Mr. Hinkst of Badax, Vernon county, one variety of seedling apple, und Mr. Eli Stilson of Oshkosh, Winnebago county, one variety of seedling apple.

Mr. I. Gould of Beaver Dam, Dodge county, exhibited fourteen varieties of apples and two of crabs. We especially call attention to a variety, procured by him from Minnesota, called the Rubicon; also, a large native crab, with much the appearance of the Soulard, which showed no signs of decay, and is *perhaps* good for cooking purposes.

Mr. J. S. Stickney of Wauwatosa, exhibited a jar of preserves made of the Soulard Crab, which showed that the variety is worthy of special notice as a preserve fruit.

Mr. P. A. Jewell of Minnesota, exhibited a winter crab; also a collection of twelve varieties of seedling apples was shown by Mr. J. S. Shearman of northern Illinois, which he had procured in Minnesota, north of Winona, which appeared very fine and promising. The committee recommend extensive trial in northern localities by producing and proving new seedlings.

Mr. D. W. Adams of Waukon, Iowa, exhibited a very fine collection of well-grown reliable sorts, consisting of seventeen well known and choice kinds, and three new seedlings.

For the lack of table room Mr. A. G. Tuttle of Baraboo did not exhibit his collection of fruits.

(Signed,)

GEO. J. KELLOGG,
CHAS. H. GREENMAN,
Committee.

RASPBERRIES AND BLACKBERRIES.

The subject of raspberries was then taken up, and remarks called for; when

Mr. Lawrence said that he was willing to allow that the

Doolittle was very productive, but he wanted a better berry for his eating. He was trying Davidson's Thornless. There was something to be said in its favor, especially facility in handling the bushes. He had fruited the Franconia, and the Belle de Fontenoy, but would not recommend either for general use, as they were not good bearers, and their second crop was of no value, as he could get full as many from the Fastolff, or Brinckle's orange, which were far better berries, and profuse bearers. These were the choice and desirable varieties. The Fastolff grows from three to four feet high, with stout reeds. One year ago he failed to cover, and they passed the winter without loss.

The fruit is large, but to his taste is not equal to the Brinckle's. This last is very tender, and yet, those who will take the trouble to cover it, will find this the best of berries, and one that will fully pay for the care. The Yellow or Golden Cap is very hardy, but it has no advantage over the other caps, in fact is not as good as the Doolittle.

Mr. Stickney said that the first year he had fruited the Philadelphia it was not satisfactory, but since then it had borne better, and given him good crops of fine fruit.

Mr. Collins of Vineland, N. J., being present, and called upon, said that he was engaged in growing Davidson's Thornless. In New Jersey this took the lead of all the berries for the market and was the most productive. He could not pronounce upon its hardiness in this state; but in Minnesota it had done well. As to fruit, it was no better than the Doolittle, but it was a stronger grower and equally hardy, so far as proved, and, being thornless, was more desirable, because it could be more easily handled.

Dr. Hobbins mentioned a red seedling that had been produced in this town, which promised well; but he did not feel authorized to report on its merits as yet. He considered Brinckle's Orange as the best for table use. His do best near the sewer, where they get the water and slop from the house and kitchen.

Mr. Lawrence had found a great difference in this fruit,

owing to the exposure it received. It did not do well when receiving the full heat of the sun. It did best when grown in the shade or partial shade. Thus on the north side of a fence or building the bushes would fruit well, while on the south side the fruit would dry up and give a poor crop.

Mr. Plumb agreed that almost everything depended on the position of the plants. When that was favorable, a full crop might be expected; if not, the first half of the crop might succeed, but the last would dry up and be lost. With raspberries, culture would always pay well. He thought more depended on this than on anything else.

Mr. Shearman said the Purple Cane bore well with him, and the birds always chose it before all others; thus showing that it was of a superior quality. He had heard the Davidson's Thornless highly spoken of; considered it favorably, and fully equal to the Doolittle as to fruit.

Mr. Askew said he had found the fruit of the Purple Cane too tender to carry to market, though an excellent berry at home. The Canes had proved hardy with him.

Mr. Kellogg said he grew the Purple Cane, both for family use and the market. It was a good bearer, and compared favorably with the Doolittle.

Mr. Tuttle had grown the Clark, but did not approve of it.

Mr. Stickney spoke of the Kirtland, and asked if any one had had any experience with it, or knew its value as a fruit. He wanted a good hardy variety of the red variety, and hoped such a one would be found yet.

Judge Knapp spoke of the raspberries that grew natively in the northern portion of the state, where it was much colder than here. And yet these proved perfectly hardy; and he thought successful experiments might be made with them. True, in the north they were found in the shade of trees, or where they were protected by trees, and where the ground was well mulched with leaves.

Dr. Hobbins said that he had been informed that at Menominee Mills in Chippewa county, the best of blackberries grew in abundance, and very fine.

Mr. Lawrence urged the necessity of growing both raspberries and blackberries in the shade. He did not believe that the latter could be grown without shade.

Mr. Finlayson agreed that shade was necessary for these fruits, and especially blackberries; and thought they could be successfully grown under apple trees, where they should be mulched freely. Thus they would not injure the apples at all.

Mr. Plumb said that he understood that when a plant was removed from one place to another, it must receive the same conditions that it had before grown in, as near as possible. He gave many instances of plants which could not be removed from one habitat to another.

Mr. Adams said he could not succeed with blackberries brought from Massachusetts to his place in northeastern Iowa.

Dr. Hobbins said that he had been told that raspberries brought from the Rocky mountains had failed in this state.

Mr. Stickney spoke of a new blackberry, by the name of A. H. Briton, because it was found with him. He had seen the berry and was much pleased with it. It was not for sale; a friend of his had bought all the stock, and was propagating it. He had himself a few plants, all he could get, but did not wish to part with any of them. He considered the bush hardy. He was told that the original plant came from England some ten years ago.

No change was made in the list from last year.

Currants.—No change was made in the list, and all appeared discouraged from the ravages of the currant borer.

Gooseberries—.The Houghton and American were recommended for cultivation. These were also attacked by the borer.

By-laws.—Mr. Willey moved to amend the by-laws by adding to the standing committees—committees on Meteorology and Entomology.

The meeting then adjourned to 2 o'clock P. M.

2 o'clock P. M.

The society having been called to order, Mr. Greenman read the following

ESSAY ON GRAPE CULTURE.

The successful cultivation of grapes, in this country is a desideratum long sought for, and realized by but few of those who have engaged in their culture. At first European varieties were largely planted, but without success. The variableness of our climate forbidding their cultivation in the open air. Recourse then was had to our own native American species, followed by better success.

The *vitus labrusca* is generally considered the best type to improve upon, while many believe that the *vitis cardifolia* is to be preferred, and that from these, seedlings will be produced that will have the ability to withstand the rigors of our winters, and whose early ripening, healthy foliage, and excellence of fruit will crown our efforts with success; and were it not for such experiences as that of 1867 and '8, very little more could be asked, so far as varieties are concerned.

Clay loams and calcarous formations are the best soils for vineyards; while eastern and southern exposures are to be preferred. Much, however, depends upon a thorough preparation of the soil, all the parts should be loosened to the depth of twenty inches; on soils free from stone, the subsoil plow will be requisite. Trenching will be necessary on gravelly hill-sides, where it is well to invert the soil, leaving the stone near the surface.

Good two-year old roots are the best for planting, and the distance apart will depend upon the variety and mode of training. Upon this point different cultivators are not agreed; but that system of training that will not impede a free circulation of air, and at the same time expose the foliage to the rays of the sun, thereby elaborating the crude materials in the sap, developing well ripened buds, and wood, will be most conducive to the advancement of grape-growing in this country. To secure these ends, I recommend the adoption of a low trellis,

the construction of which will be explained under another head. Lay off the rows six feet apart, and the vines six feet in the rows, setting a small stake for each vine. Dig a hole large enough to receive the roots, and ten inches deep; spread the roots out evenly; raising the crown of the plant two inches; cover lightly with soil and press firmly upon the roots with the hands; fill the balance with loose soil; mulching liberally, to secure the plants against drouth. Allow but one cane to grow the first year. Removing all laterals, as they appear; pinching out the top when the vine has obtained a height of six feet; allowing it to have its own way the balance of the season. Prune to three feet; cover with soil, and mulch for winter protection.

A low trellis is constructed in the following manner: prepare stakes four feet long and two inches or more in diameter, sharpen one end and coat with coal-tar half way up; to secure their durability, drive a small staple near the top on each side, making four staples to each stake. The bows may be riven as for hoops, or sawed one inch wide, by one-half inch thick, and sixteen feet long. These should be steamed and bent on a former, on a half circle of seven feet, allowing both ends to project in a straight line two feet. The ends are sharpened to fit the staples in the stakes. It requires one stake, and two bows for each vine; drive the stakes eighteen inches deep, and two feet in advance of each vine in the row; place one end of a bow in the first stake in the first row, and the other end in the second stake in the second row, then commence in the second row in the same manner, and so alternately, until all the stakes are filled. This crosses the bows in the center between the rows; and these should be fastened together in the outside rows. A bow will extend from stake to stake around the vineyard. These bows will be high enough to allow cultivation with a horse. Bring the vines to the stake at an angle of about forty-five degrees. This will facilitate laying down for winter protection, when the vines have attained a large size. Allow the four top buds to grow, except on the corner vines, which will have three; train one branch of each

bow; rub off all the buds on the lower portion of the vines, and allow no fruit to set, as all the strength of the vine will be required to produce wood for next year's fruiting. Keep the laterals pinched in, and by the end of the season, the canes will have reached the center of the bow. At the fall pruning, cut back to two feet, and cover with soil, and mulch for winter protection. The next season extend the fruiting canes to the center of the bows, and a moderate crop of fruit may be taken from last year's wood. The next year the vine will be in full bearing. Prune on the short spur system, renewing the canes as often as desirable. The advantages claimed for this trellis are cheapness, durability, and simplicity of construction; exposing the foliage to the rays of the sun, and at the same time shading the fruit; allowing a free circulation of air, and thus secure the necessary conditions in successful grape culture.

I now come to the important matter of selecting varieties for the vineyard. This will depend more upon the location than the soil, as the aggregate amount of heat differs materially in the same latitude, and their adaptability can only be approximated, by a close observation of the amount of heat required by the different varieties, to bring them to perfection. From observations taken at Waterloo, N. Y., in 1862, and reported in the *Horticulturist*, I find that it requires an average of 53 ° of Fahrenheit to bring the Delaware to leafing, which occurs about the middle of May, and an average temperature of 59 ° for a period of forty-five days, or a total of 2,678 ° Fahrenheit from the breaking of the leaves to the setting of the fruit; and requires a period of 122 days, with an average of 68 °, or an aggregate temperature of 7,927 ° from leafing to the ripening of its fruit, while the Concord requires about 500 ° more than the Delaware to bring it to perfection; and the Isabella needs 10,000 °, while the Catawba cannot do with less than 11,000 °, and requires about 142 days from leafing to ripening. At Janesville, Wisconsin, for six years, from 1857 to 1863, the summer mean temperature averaged 71 ° Fahrenheit, and at Prairie du Chien, for 19 years, the summer mean corresponds to 72 ° Fahrenheit, while at Green Bay, for four

years, the summer average was 68°. From this I conclude that the Delaware and Concord may be safely planted in southern Wisconsin, and that the Delaware will ripen at Green Bay. While near large bodies of water, or on high altitudes, where the September mean temperature extends into October, without intervening frosts, the Isabella, Catawba, Iona and some of Rogers' hybrids, with other late varieties, will succeed. I, therefore, further conclude that no varieties should be extensively planted that require an aggregate summer temperature of over 8,000° Fahrenheit, while near lakes, as at Madison, or on the bluffs along the Mississippi, or near Baraboo, the late ripening varieties may be planted with expectations of success.

Among the thoroughly tested varieties, I would name the Delawares as at the head of the list, and the Concord as nearly equal to it. While the Janesville, with its early ripening wood and fruit, together with its productiveness, adapts it to a large range of country, where the late ripening kinds cannot be successfully grown. And in concluding, let me urge the horticulturists of Wisconsin to observe the requirements of the many candidates for public favor, and thus determine what varieties to plant, that every family in our state may sit under their own vine and enjoy their refreshing fruits, using as not abusing, one of the best gifts of God to man.

The essay being completed, the president announced that the subject of discussion in order was

GRAPES AND VARIETIES.

Mr. Adams remarked, that with him, in northwestern Iowa, Rogers's Hybrid No. 8, ripened as early as the Delaware; and he thought much of that grape.

The Creveling.—Mr. Kellogg preferred the Hartford Prolific to the Creveling, for its fruit and bearing qualities.

Mr. Greenman said his Crevelings rotted badly on the vine.

Mr. Adams said the Creveling was of the first quality with him; though the bunches were loose, it fruited well.

Mr. Tuttle considered the Creveling better than the Hartford. It fruited heavily on his grounds, but does not ripen evenly in the bunch.

Dr. Hobbins said he was almost tempted to place the Creveling first on his list. It is a vine not injured by drought or cold, like some other kinds. His family preferred it to all the other kinds in his garden.

The Diana and Rogers' Hybrid.—Mr. Tuttle thought we had much better grapes than the Diana. The vine of that was too tender for our severe winters. We wanted not only a hardy vine, but also a berry with long keeping properties. Such could be found among the Rogers' hybrids. He would name Nos. 4 and 15, as grapes that possessed the long-keeping properties. The last in particular. He had some of No. 15 in a box, among other grapes that had rotted, and yet they were sound. They could be kept till April with proper care. He had noticed that it loses its muskiness with age. The first choice in his garden were the Rogers' hybrids.

Mr. Kellogg said that he had heard the Diana recommended for its long keeping qualities. But he knew the Delaware would keep as long as the Diana. He had Delawares now which he had kept by merely putting papers between the bunches.

Mr. Adams saw the No. 15 at the Iowa state fair, in January, in good condition; and was satisfied of its long keeping properties.

Mr. Finlayson preferred the No. 15 to all others, except the Delaware.

Mr. Askew preferred the No. 15 to the Concord even.

A motion was then made and carried to place Rogers' No. 15 at the head of the list and before the Diana, for its long-keeping qualities.

Mr. Kellogg moved to place Nos. 4, 3 and 19 on the list for trial, which prevailed.

Mr. Tuttle should support this motion; as far as he knew, the Rogers' hybrids have all the good qualities of the Concord and often keep equal to or better than the Diana. Nos.,

3 and 19 commenced ripening as early as the Hartford Prolific, and Nos. 4 and 15 with the Concord.

Mr. Adams was in favor of the motion, as they had done so remarkably well with him.

The Janesville.—Mr. Plumb moved to place the Janesville on the list as a good grape for trial. He had watched this grape for some time, and it had behaved admirably. It was hardy and ripened its wood and fruit well, though in quality it could not be placed at the head.

Mr. Greenman. It has stood where the Concord and Delaware have failed. He hoped to have a large show of fruit for another year. He had started a large number of vines this winter, in a forcing house, but the house had taken fire, and he had lost the whole of that stock; and he did not know of any other for sale, except a few plants in his open grounds.

The motion prevailed, and the Janesville was recommended for trial.

Other Kinds.—Mr. Peffer has seen the Martha, which had made considerable noise, but it did not come up to the recommendation it had received. He thought it a regular humbug for this state.

Mr. Kellogg had seen the Worden Seedling in New York, where it was produced. He found the parent still alive, growing by the side of all the leading sorts, and ripening its fruit five days earlier than the earliest. He thought it was a seedling from the Concord. From three years' trial it had proved very hardy in his nursery, and he was favorably impressed with it.

NEW FRUITS AND EXPERIMENTS.

Mr. Plumb offered the following, which was adopted:

Resolved, That we, as a society, do extend to all producers of new fruits our warm sympathies in their efforts for the good of the cause, and recommend them to bring their fruits before the public through our patronage and under the observation of our members, and by placing them in the experimental garden.

Mr. Stickney offered the following, which was adopted:

Resolved, That we will forward to the experimental garden, such things as we have, that will be useful or desirable therein.

STANDING COMMITTEES.

The president then appointed the standing committees for the year:

Nomencla'ure.—Messrs Plumb, Findlayson and Tuttle.
Seedlings.—Messrs. Stickney, Kellogg and Gould.
Finance.—Messrs. Leitch, Greenman and Peffer.

Mr. Peffer then read an

AN ESSAY THE PLUM.

There are many varieties of the plum, both native and wild, and the cultivated or imported from other parts of the world. Among these are found some of the best, finest and most luscious of stone fruits. Most of the varieties may be raised in this climate, by a little care and attention. I say most, though in reality there are but few, compared with the great number of varieties, now in the United States, whose names are found in the fruit books, and among our horticultural writers, that can be found here. Therefore, I shall not name all the sorts, and shall only give a list of those that have been tried and carefully noted. These I shall place in the order, as they will stand the climate of this state, marking the degree of cold that will destroy the trees with me at Pewaukee.

Before giving the list, I will premise, that I assume that the plum can be easily grown in all parts of this state, as most of our wood lands and "openings" are, or were covered more or less with the native or wild varieties. Many of these are of fine flavor and excellent quality, and all may be made useful. Some are early and some are late; some sweet, some sour, and some large, others small. All can be improved greatly by cultivation, and the production of new sorts. This wild plum should be planted more extensively all through

the northwest. Suppose a variety we have reared is not so desirable as could be wished, the tree need not be lost, as it can be grafted with some other variety, either native or cultivated, that is desired. These native stocks, especially the late and free-growing sorts, I have found to be the very best on which to work the best sorts. Some years ago, when I first owned a small spot of land and commenced to make it into a garden, I set it out with trees as far as my means would allow. But being unable to procure as many as I needed of the cultivated kinds, I filled my borders with the wild or native trees, designing to graft them, and prove their utility. I therefore took up wild plums, crabs and white thorns, set them out and grafted them with such varieties as I could then procure. Some were top-worked, some root-worked. Nearly all the plum scions grew. The top-grafted fruited the second year, while those under ground took three or four years to come into bearing. I had occasion to take up some of these, to set other trees, and found that in some instances the scions had taken root, and in some cases they had nearly died to the surface of the ground, by reason of the cold, yet the wild plum stocks were alive, and the trees grew again, though their own roots were dead. Such were finally killed by the rotting of those dead roots, with the wild roots still alive. This experience has proved to me that the better sort of tame plums, on their own roots will not stand our climate.

I was further confirmed in the faith by purchasing, about the same time, plums worked on tame stocks, and on peach roots, which had been imported from the eastern nurseries. All those trees have died by root killing; and up to the present time, I have no plum tree good for anything that stands on its own roots. And I would use only wild stocks for plums.

Most of the varieties of tame plum trees will prove hardy with us where they ripen their wood; but in some sorts the fruit buds are tender, some more, some less so, just as the climate may have varied where they originated. I will now name a few that will stand certain degrees of cold, and will,

all things considered, fruit in some seasons, but not in others, when the cold is too great. There are some sorts that can stand no more cold than the germ of the peach, or tender cherries.

Those that will stand from 20 to 26 degrees below zero, are the Lombard and its seedlings, Blucher's Gage, Imperial Gage, Duane's Purple Gage, German Prune and the White and Blue Damson.

Those that will stand from 16 to 20 degrees below, are the White, Yellow, Red and Purple Egg, Coe's Golden Drop, Huling's Superb, Reine Claude de Bovey, French, McLaughlin, Manning's Long Blue Prune, Horse Plum, Bingham's Gage, Green, Red and Purple Gage, Featheringham, Blue, White and red Pertrigan.

Those that will stand only from 14 to 16 degrees below, are the Washington, Jefferson, Early Royal and Peach Plum.

Our best wild sorts are occasionally killed in some localities. But this does not arise so much from absolute cold weather as from their location, so that, though they survive the winter, they start their buds, and then a cold snap coming on, the flower buds are killed; and thus the fruit is lost.

There are drawbacks to the successful growing and raising of plums beside severe cold; such as leaf-blight, aphis, thrips and curculio; and some trees are damaged by overbearing. The blight makes its appearance in July and August, and causes the leaves to drop very early, and then if a warm fall follows, it will stimulate a second growth, and new leaves and blossoms appear just when the first frosts occur. I have never seen a tree recover when thus affected. They always die. The *aphides* and *thrips* also destroy the leaves by eating them, sucking out the juice, and they also drop immediately, thus producing almost the same effect as blight. These insects can be assailed, by killing them by some of the means known to gardeners; such as decoctions of quassia wood, tobacco and some other things, which will kill them, if put on with some instrument that will wet the leaves on the under side.

The Curculio.—This little beetle is perhaps the greatest enemy to all stone fruit we have. In some places they are so numerous as to destroy the whole crop for a number of years. I know many who say they do not want to plant any more plum trees, because the fruit was all stung by the curculios; and the trees are therefore of no use to them. A very sure way of destroying them is to jar the trees and catch them on a sheet spread under the tree, when they fall, as they always will when the tree is jared. Several receipts and preventives have been proposed within the last few years. Of these, I think the only practicable one is to destroy the plums that are stung, as fast as they fall from the tree. For that purpose hogs may be kept in the orchard to pick them up as fast as they fall; or some four inches of the soil may be taken from under the trees, and carried to some other place, and other soil put in its place.

The plum tree will generally live from twelve to thirty years; but owing to the curculio, many trees are robbed of their fruit before its maturity; and of consequence, the trees make an extra effort to produce their species, and so they will set so full of blossom buds, for the next year, that they are killed by this effort to produce fruit. During our sunny days in winter, these trees, overloaded with buds, evaporate what little sap is left in them before spring arrives, and so they are killed outright from over exertion. Some years it may happen that blossoms and fruit are killed by late spring frosts and so there is nothing for the curculio to feed upon, as was the case in 1860, and then they will get thinned out, and the next year there will be a large crop of fruit. The oldest plum tree I know of, in this state, stands in the grounds of a friend of mine, in town of Lisbon, Waukesha county, and is now twenty-two years of age. It has never perfected but one crop of plums, and that it bore the third year from the graft. The curculio has taken them ever since.

I should select a list of plums, for cultivation, from those that will stand the greatest degree of cold, as given above. All of which I recommend for hardiness in this state. Their

qualites and merits I submit to the consideration of the members of the society, and to the public.

The subject of plums being thus brought before the society, Mr. Plumb said that the essayist had presented this fruit under a new feature, that of placing them in lists of ability to withstand degrees of cold, instead of merits as to fruit, and surely it deserves a careful study before it was adopted or condemned.

Mr. Stickney had tried to rear many sorts worked on tame roots, but all had failed. He, therefore, from his own experience, had concluded that the plum must, in this state, be worked on wild stocks, if we would succeed.

Mr. Plumb knew one tree grafted on the Red English, which is in good condition, and has borne several crops of fruit; but such cases are rare. The best trees are those worked on the wild stocks. He thought that plum trees were often killed by overbearing.

Mr. Adams had quite a large list of trees, and he would greatly like to see how they would look while dying with the disease of overbearing. His trouble had been to get them to bear at all.

Mr. Tuttle has the Lombard, sixteen years set, and used to get fruit plenty, but of late he had failed. The curculio had been too severe for him, and he new no effectual remedy. On their account he thought he would have to abandon the attempt to raise plums. As soon as the curculio finds them, it is sure to destroy the entire crop.

Mr. Stickney had succeeded in protecting his plums against the curculio, by enclosing them and keeping fowls, or hogs in the enclosure.

Judge Knapp had heard it stated that the curculio would not work on a tree that grew over water, and asked if any one could tell if that were the case.

Mr. Peffer. They will not work in such a place, as they would, in falling, which they are often doing, in that case fall into the water and be drowned. Instinct seemed to teach them to avoid the water.

PEARS.

Nothing new was offered, and it was conceded that none but the Flemish Beauty would stand the winters, and even that was often killed.

THE CHERRIES

were allowed to stand as last year.

ENGLISH SPARROWS.

Judge Knapp. The subject of insects and the mode of destruction, leads to the enquiry as to what would be the effect of the insectiverous birds. We have such, but then many of them are also frugiverous, and for that cause they were objectionable. But it was known that the English sparrow had been introduced into New York city for the purpose of clearing the streets of the insects that destroy their foliage. He would like to be informed by some one who knew whether they would eat any kind of fruit, and whether it was believed they could be kept in this state.

Mr. Plumb thought the blue jay would destroy them as it now does some of the other small birds, especially the young ones and the eggs;

Judge Knapp knew that jay bird, and knew no good of him. He was only a thief to rob other birds of their eggs and young. He is the origin of the word "Jay-hawk," or stealing, as known on our Kansas frontier—a word that had its rise in the mind of a Wisconsin lawyer, some years back, from this habit of the bird. But to return to the sparrow. It was not a migratory bird, but remained about the houses, where it nested, summered and wintered like the domestic fowls, and provision would have to be made for its protection.

Dr. Hobbins remembered the bird in England but did not know of its habits, farther than that it lived about the houses and ricks, and ate the grain in winter. He had known bounties to be offered for their destruction.

Judge Knapp said he was aware of such offers, but he also knew that at a later day laws have been passed, both in England

and other European states, for their protection, on account of the benefits derived from their killing insects. One thing we must confess to, there are less destructive insects preying on the fruits of Europe than in America, and he was disposed to attribute the difference to the sparrows, finches and other birds of Europe destroying the insects, rather than to anything in the climate. On the other hand, Europe has less hawks and jays than America, and so her birds increase in numbers.

Dr. Hobbins said he would correspond with the president of the Royal Horticultural Society of England, and believed he could learn from that source the value of the sparrow; and perhaps could obtain a pair direct from England.

On motion a committee, consisting of Messrs. Dr. Hobbins, Willey and Knapp, were appointed to correspond on this subject and if possible to procure a pair or more of sparrows.

EVERGREENS.

The society recommended the same list of evergreens as last year, except substituting the American Arbor Vitæ for the Siberian. The list therefore stands, white, Red and Scotch Pine, for large trees, Norway Spruce. American Arbor Vitæ, Juniper (red cedar,) for ornaments and wind breakers, and several others for ornamentation.

HEDGINGS.

Mr. Willey said, that for a hedge plant, he thought we had none equal to the Barberry. It was sufficiently thorny, grew thick, cattle would not eat it, and he believed it would make an excellent hedge row.

Mr. Findlayson liked the Barberry very much and believed it the only thing that we had that would stand our cold climate, or that was good for anything as a hedge plant.

Dr. Hobbins said the Barberry was very ornamental in leaf, flower and fruit. It grew freely, and was readily propagated from seeds.

Mr. Stickney had been trying it, and was satisfied that it was the only good hedge plant we had.

Mr. Plumb had thought much and practiced some on hedge plants. He had heard the three-thorned locust named as making an excellent hedge, and had sent for seed of the same; but more than one-half of them had proved thornless, and he had abandoned the idea of making a hedge of them, and should therefore cultivate the trees for shade trees. A neighbor of his had been trying the Osage orange, and it promised well on the high, dry land; and he meant to plant it himself.

Judge Knapp said that in his opinion Wisconsin was north of the zone of the Osage orange, and experience would prove, if it had not already done so, that it could not be depended upon as a hedge plant in this state; in fact many of the plants proved tender at Bloomington, in Illinois. And where one dies out, the hedge is destroyed as a fence. Some plant was required, every one of which would be hardy. The three-thorned locust, in addition to the objection of its dangerous thorns, would not bear to be sheared down sufficiently to keep in bounds. It was a tree and not a shrub.

Mr. Adams said there was a difference in the seedlings of the Osage, as to their capacity to resist the cold, the same as with apple seedlings; and for that reason he did not think it would make a good hedge plant here. The tender ones would die out and thus the hedge be destroyed.

The meeting then adjourned to 7 1-2 in the evening.

7½ O'CLOCK P. M.

The meeting convened agreeably to adjournment. The president in the chair.

The secretary then read from Mr. De Wolf of Delevan,

AN ESSAY ON THE RASPBERRY.

Mr. President and Gentlemen:

The raspberry is among our most important branches of horticulture, and is rendered doubly important at the present time, by the neglect it has received in the past. * * My love for all persons living within our beautiful state prompts me to make one frank statement, and in this I desire to encourage

those who are just starting or it may be putting it off, and have not set fruit of any kind, and now, because their wheat will not sell for two dollars per bushel, plead that they are unable to plant this coming spring. Horticulturists are not able to defer the planting of fruit for one moment. "Delays are dangerous" in horticulture. If a man can spare but one dollar, and he invest it in the Black Cap Raspberry plants, I believe that it will do him more good than five dollars expended for any other variety of fruit.

History of the Raspberry.—Pliny, the elder, who is supposed have written his natural history about the year A. D. 45, mentions the wild brambles, which the Greeks called Idea. Palladius, a Roman agricultural writer, who flourished in the fourth century, or about 1400 years ago, mentions the raspberry as one of the cultivated fruits of his time. But like most other small fruits, very little improvement was made until within the past century, as the old gardeners depended mainly upon the wild plants, which they obtained from the woods of their own or some foreign country. Even yet, very many of the farmers and gardeners of our own state are following the same practice of getting their raspberry plants from the woods.

Objections to the Culture.—I meet these men and try to sell them raspberry plants of new varieties. "But," says one, "I don't want any of them, I have fooled away money enough upon them now, as mine all killed out last winter." I ask such a man, "Sir, what variety did you have?" And after a great deal of study he finds the names of several very popular foreign varieties; or it may be the name of a seedling o some of these varieties, no better than its parent. This man had never heard that these varieties must be protected in winter, unless their owner had provided a green house, to grow them in. Persons not having this convenience, will do well not to purchase any variety for general cultivation that needs winter protection. The next man I meet has heard about "winter protection," and says, "I will not bother with raspberries. They are more trouble than profit." The third man

says, "They have spread all over my lot, and I would not take raspberry plants as a gift." I meet the neighbors of the above mentioned persons, and they cry out, "Humbug!" I plead with them to read what Andrew S. Fuller and other horticulturists have written. "No. I do not care for the opinion of Fuller. I believe my neighbors in preference to any one."

These and similar objections have met me often during the past three years; and they have had to be removed, or they could not be persuaded to invest in any variety of raspberry. * * I have endeavored to seek out a variety of the raspberry that was free from these serious defects. * * Perhaps our pomological writers have been somewhat at fault in condemning every variety that did not come up to their standard as to quality; forgetting that a moderate supply of a medium quality of fruit was far better than none at all. Quantity is that which gives satisfaction to the masses.

The Black Caps.—On examination I have found that all the black caps were hardy, and needed no protection in winter; also, that they did not sucker. "But," says the farmer, "I have black raspberries; I brought them from the woods. What better are yours?"

The Black Caps, like other valuable fruits in their native state, are found to have several defects, that must be remedied before they can be pronounced worthy of general cultivation. These defects are: 1st. Small size of fruit; 2d. Dryness of the pulp; 3d. Excessive seediness; 4th. Small yield; 5th. The short and uncertain period of its bearing habit. A neighbor of mine, a few years ago, becoming interested in the culture of the raspberry, set out a large piece—I think several acres, with the common black raspberries, but after a time, a friend of his from near Oak Corners, in New York, when the Doolittle raspberry was just started, induced him to try some of those plants. After trying the Doolittle thoroughly, he dug up and threw away all of the native plants, and planted the others, thus subjecting himself to no small loss of time, labor and money in their culture. His neighbors said he was crazy, thus to throw away money, months of hard labor and

his plants, and then give his note for sixty dollars to pay for plants of the Doolittle; which they were sure were no better. But mark the result. In 1866, two years from setting out the Doolittle, he says, "I have raised one hundred and fifty bushels of the Doolittle Black Caps, which I have sold at an average of $8 per bushel, wholesale, making the nice sum of twelve hundred dollars, for one crop." And he adds, "There is no fruit that gives so quick and profitable returns, for the labor bestowed and money invested. No fruit retains its flavor, or keeps better when canned. It is easily and rapidly dried.

I could refer to many instances of enormous profits received from the culture of improved varieties of the Black Caps, but as the one mentioned took place in our state, I shall let that suffice, as a practical reference. Within the last three years greater perfection in this class of raspberries has been attained.

Varieties.—Davidson's or Sinton's Thornless, is the earliest in ripening its fruit. Its fruit and habits are similar to the Doolittle, with the exception of being a little earlier and free from thorns, thus making it a special favorite among ladies.

Garden ripens next in order. This is a dark red or brown berry, as if red and black were mixed. By some this is highly prized as a garden berry.

Doolittle ripens next in order. This variety has been too long before the public to require further description.

Seneca is extremely late and very prolific. It is a decided improvement upon the Doolittle. This fruit is larger and the canes more vigorous and productive.

Improved Miami is certainly one of the largest black raspberries in cultivation; and the best of the cap varieties. It may be briefly described as follows: fruit very large, dark brownish-black, almost entirely covered with bloom, juicy and sprightly in flavor; canes very strong and vigorous, with more or less bloom, not so much as on the Seneca, but more than on the Doolittle; spines numerous and strong, on the one-year old plants, but afterwards they are quite scattering; leaves large, and deep green, with leaflets rather broad in proportion

to their length. Very productive; berries ripen some days later than the Doolittle. It is very probable that this is the same as the Mammoth Cluster. * * * I care not by what name they are called, the Improved Miami, McCormick, or Mammoth Cluster. I have five acres of them and claim they are the best five acres of raspberries in our state. In the *American Hoticultural Annual* for 1869, Fuller says: "In 1867 I sent for the Miami, and obtained a small lot from H. M. Purdy. These plants have fruited finely this season, and from them I have taken my description of the Mammoth Cluster Raspberry."

The above are five distinct varieties, and are from the earliest to the latest known. All of them propagate from the tip of the canes, layering in the fall. They do not sucker, and need no winter protection, nor staking, if properly trimmed; or any more cultivation than corn.

Culture.—Any soil that will produce good corn, with deep tillage, will answer, yet light soils should be well manured. Plow well and deep; if sub-soiled all the better. Prepare the ground thoroughly. Planting must be well done. Spread the roots out properly, then cover the plant about two inches and no deeper. Many persons lose their plants by neglecting this caution. We plant four feet apart in the rows, and from six to eight feet wide, and cultivate a row of corn or potatoes between them, the first year or two. In the garden they may be set closer, but the rows should be six feet apart. Cultivate with the hoe and cultivator, keeping the ground mellow and entirely free from weeds. The first season be careful not to hill up around the young plants, but keep the ground level If it be hilled up much the canes will die. Do not work nearer than about 18 inches to the hills with the cultivator, for fear of breaking the roots. Cultivate the ground as early in the spring as it may be fit. After the berries have blossomed, do not work too deep, lest you destroy the fibrous roots, that feed the forming berries.

Trimming.—The second spring after planting the canes

should be shortened to twelve or eighteen inches, according to their growth, so that they may not over-bear, and also to keep the fruit from the ground. When the new wood of the second year has made a growth of three feet it should be checked by cutting it off. The old wood should be removed each year, as soon as the fruit is gathered, and the new shortened in. After July never cut or break any of the growing branches.

Garden Culture.—All the advantages of house culture may be secured by planting quite closely together and mulching the ground heavily with any course material.

Experience teaches us that respberries can be more successfully cultivated in Wisconsin than any other fruit. May Divine Providence speed the day when Wisconsin shall be as noted for her raspberries as some of her sister states are for their peaches and other fruits.

The secretary then laid before the society the following

LETTER FROM JOHN A. WARDER.

CLEVES, (O.) 12th mo. 31, 1868.

O. S. WILLEY, Esq.,

Secretary Wisconsin Horticultural Society:

MY VERY DEAR SIR:—I wish it were possible to expres to you and to my good friends in Wisconsin the disppointment which I felt that I was unable to accept your invitation last fall. I had quite set my heart upon being with you, but could not get away. And now, must inform you that my engagements at Champaign are for a course of from 12 to 20 lectures. The managers allow me but four each week, commencing with January 12 prox., and I shall not get through by the 2d of February; if I can get away at that time it will afford me great pleasure to meet with my good friends of Wisconsin, for whose esteem I have a very high regard. * * * * * *

I am delighted to learn that you horticulturists are doing so much as you report, at and about the Agricultural College—just what we might have expected from such a noble set of fellows. This institution alone would attract one to your beautiful city of lakelets, about which I have read such charming accounts, and which I have been so anxious to behold.

The botanical exploration of your state would indeed be a most valuable labor, and should be undertaken by the legislature. A report upon the plants of Wisconsin would indeed be very valuable, and you have the men to do it. Your Lapham's report on grapes is one of the best, indeed the very best one extant in any of our states. Yours, very truly,

JNO. A. WARDER.

On motion of Mr. Plumb, a committee of five, consisting of Messrs. Plumb, Stickney, Moody, Leitch and Gripper, were appointed to name the judges at the next state fair.

AGE AT WHICH TREES SHOULD BE PLANTED.

Mr. Stickney offered the following, which, after discussion, was adopted :

Resolved, That we recommend that the most suitable age for planting trees is at two and three years.

In the discussion that arose on this resolution, Mr. Tuttle said that there was some difference in trees. Some are better at two and some at three years. It was a wrong impression, that trees so very old were the best. When men send to him for the best trees, he always sends them two or three year trees. He had himself planted the Fameuse, some two and some three years old, and the small ones were soon as large as the others, and now some are double the size of the large ones, and are worth much more. Men invariably want two year old trees after they have once tried them, who before would not set a small two year old tree.

Mr. Adams agreed with the last speaker, and said that his experience was that a small tree, that can be planted with all its roots, was worth much more than one that must necessarily be mutilated in taking up. While the large tree was recovering from its loss of roots, the small one will be making top, and equal the other in size.

Mr. Kellogg thought this the most important subject that had been before the meeting. Old trees that are damaged by removals, are never as healthy as young ones that receive no such shocks. He had rather have a graft six inches high than a tree six feet high. He thought the cheapest and best way was to set grafts that had not yet struck, putting two or three in a place to secure the growth of one and then thin out, rather than to set any trees that had grown.

LOW TOPS.

Judge Knapp offered the following, which was adopted :

Resolved, That we recommend that apple trees be trimmed with low tops, and that the branches be induced to grow as nearly as may be at right angles to the leading shaft of the tree ; and not more than from two to four feet from the ground to the lowest branches

Mr. Tuttle should support this resolution. He thought the manner of forming the top very important. There should be a leading shaft, and all branches should be as nearly at right angles to that as possible. Such a tree would not be liable to split down, nor rot in the angles. Some trees are disposed to grow upright, with such the trimmer will meet with most difficulty, but perseverance would do much towards overcoming such trees. He approved of the low tops. They would stand the climate better, and the fruit was more readily picked on such trees.

THE WESTERN FARMER.

Mr. Kellogg offered the following, which was unanimously adopted :

Resolved, That we not only endorse *The Western Farmer*, as an able agricultural paper, but we will make it our organ of communication, and will contribute more fully than heretofore to its columns by correspondence, and by every means in our power assist in its circulation.

WILD BERRIES, NUTS, FOREST TREES, ETC.

The business of the society being concluded, the question of the culture of wild berries, nuts, forest and shade trees was then taken up.

Mr. Cover furnishing the following hints :

Berries and Nuts.—The sanice or shadberry grows well in all parts of our state. Plant in rows 12 feet apart. Blooms earlier than any other tree ; bears, in clusters, a most delicious fruit ; ripens in early June ; bears at 10 years old. Thrifty, upright, tall and ornamental. Birds only too apt to steal the fruit.

Black walnuts and butternuts are fine trees for shade, and hardy. Should be planted in fall as soon as the walnuts fall from the trees. Difficult to transplant, but no difficulty in getting trees from nuts planted where trees are wanted. Bear at 9 or 10 years old. Never fail to bear thereafter.

Shell bark hickories may be raised the same way, and bear at 16 years old or thereabouts.

Judge Knapp remarked that some chestnuts which had grown to the bearing size, had died for some cause; and inquired if it was supposed that they could not be grown in this state? He had supposed they could be, and should be very reluctant to have to change his mind.

Dr. Hobbins spoke highly in favor of the chestnut, and believed it could be grown.

Mr. Adams had gathered an abundant crop of chestnuts, and fine ones at that, on his place in northeastern Iowa, on the Mississippi river; and he saw no reason why they should not grow on this side of the river.

Mr. Peffer said they would not grow with him in Pewaukee on the limestone drift soil. He regretted this, but it was true nevertheless.

Several members spoke in high terms of the white elm, sugar maple and bass wood for shade trees, and also of the hickory, walnut and butternut for their timber and fruit.

Mr. Greenman offered the following, which was adopted:

Resolved, That the thanks of those members from the country are hereby tendered to the friends of horticulture in this city, for their kind hospitality during this meeting; also to the Milwaukee and St. Paul Railroad for their courtesy in returning members to their homes free of charge.

And the meeting adjourned *sine die*

THE GENERAL EXHIBITION.

As hetofore, for many years, the annual exhibition of the society was held in connection with, and as a part of the exhibition of the state agricultural society. The display in all departments was a very fine one, doing great credit to individual exhibitors, to the competing localities, and to the state at large.

As some account of it, and the full list of premiums awarded, have already been given by the secretary of the state agricultural society in the volume of which this report constitutes a part, it is not deemed advisable to occupy space with any further report of it here.

The annual address was delivered on Thursday evening of fair week, in the assembly chamber, to a large and appreciative audience, by Dr. John A. Warder of Ohio. For the following report of this address we are indebted to the *Western Farmer*:

ADDRESS OF DR. JOHN A. WARDER,

ON THE PRINCIPLES OF HORTICULTURE.

And this is Wisconsin!—*the land of the winds.* But a few years agone, in my primary geographical studies, it was a portion of that *terra incognita*, the so-called northwestern territory, with here and there a small military post and between them vast plains, partially occupied by the wild game and the wandering tribes of the *aborigines;* now it is the happy home of a great people, amounting to a million of souls, who have made themselves famous by the arts of peace, with their abundant productions, as, in our common country's struggle, they also did in the field of battle, fighting bravely for the right in the great cause of human liberty and progress.

The reasons for your greatness were explained by my eloquent friend, who told you last night that the best men of their and had emigrated from the east, to populate the growing but

boundless west. Had his extreme modesty allowed him, our amiable friend would also have reminded you of that interesting fact in the history of the settlement of our country, that population follows very closely the parallels of latitude, and he would thus have proved the legitimate claim to a portion of your young renown that is due to New England.

In traveling rapidly over portions of your beautiful state, the stranger cannot fail to be struck with the evidences that everywhere present themselves of the successful thrift of your people; with the vast extent of cultivated lands; the amount of timber planting, the general tasteful embellishment of homes, and, if he be an observant agriculturist, he will also rejoice to see that you already realize the value of the truths, that were so well and so happily presented to you last evening, as to the necessity of preserving the fertility of your virgin soils. He will rejoice to see vast fields dotted with the enriching contents of the barn-yards. Not waiting for your fields to be exhausted by a bad system of farming, which would sooner or later compel you to pull up stakes, and to seek new fields in another land of promise, your attachment to your homes in the beautiful Wisconsin leads you to keep up and, let us hope, even to increase, the richness of her land.

He who comes with the light of the geologist sees your plains, their swells and swales, and crystal lakes, with the deepest interest, and acquires an insight into the secret arcana of the formation of your country, which enables him to understand one great cause of your success, and also to know why your prosperity may and should be sempiternal, if you choose so to will it. When the geologist studies the nature of your soils and sub-soils, he finds that they are not (as is often the case otherwheres) dependent upon the nature of the underlying rocks, which are here generally concealed and covered to a great depth, and which may have contributed in but a trifling degree to the overlying strata of clays, gravels and sands, that make up the soil. In many portions of the United States the geologist may safely predict the particular crops, and in the fruits, even the particular varieties that will succed or fail in a

given locality, because he knows the characters and chemical elements of the particular rocks upon which the soil is placed and from which it has been derived. This is especially true in the regions where the soils rest upon the coal-measures, those upon the Devonian shales, and in the great famous Bluegrass regions of the Silurian limestones, where the soil has been produced almost exclusively from the decomposition of those several rocks. You are very differently situated in this vast region of the lakes; you are in an immense drift formation. Here we have the most extensive evidence of the wonderful power of glacial transportation; the whole country is overspread with moraines of the debris of ancient glaciers, whose power alone can account for these heavy deposits of clays, and gravels, and sands, accompanied with great masses of hard rocks that have withstood the disintegrating forces of the elements, during their journeys of hundreds of miles from the places of their original deposit.

With such a basis, with such materials at hand, rich in the elements of plant food from various rocky strata, containing in their wonderful mixture all the substances that can be needed by every crop, you have indeed the basis of a valuable soil. The boulders that lie scattered over your country, and which prominently crown so many of your beautiful knolls and swelling ridges, and the smaller pebbles and gravels will furnish materials for a most interesting cabinet of minerals, since they are the debris that have been torn from every rock between you and further north.

Better the triumphs of horticulture! A wide but important theme! Why is this request to speak on this subject made? Why of me? Because for a want of a more thorough understanding of these principles many of us have failed to attain the results towards which we have aimed. This is true of other places than Wisconsin. We have all suffered alike and can learn from one another's experience—from that excellent but most extravagantly expensive teacher!

You have started on the right track for correction of errors. Your keen intelligence has led you to estimate correctly the

value of a broad foundation of correct principles as guides for your future action. The little mistakes which you have made, the occasional failures which may have occurred, amidst your general success, have attracted your attention and you have already done the best thing that could have been done in the premises.

The first question is thus answered by reference to your good sense in desiring to come back to principles, to a sure foundation, to a scientific basis, rather than longer to be misled by the uncertain guess-work of ignorance or of untried and hastily formed theory.

The second question is easily answered. A too exalted estimate of your admiring and sympathizing friend, has called him to your presence, only to make a frank confession that he, like yourselves, has met with failures, from which, like you, he has endeavored to draw comfort and advantage in the way of learning how to avoid a recurrence of similar disasters. Like you he acknowledges himself but a learner, a beginner, a student in the great school of horticulture, which is ever open to all those who will but use their eyes and hands in scanning and testing nature, and in studying out the great problems that lie in every clod, in every dormant seed, in every living bud, in every expanding leaf, in every growing shoot, in every smiling flower, and in every melting fruit that he may have trained and cherished, or that his willing hand may pluck, and his grateful spirit may enjoy. But I am asked to entertain you by discussing the principles of horticulture.

Whether we consider under this general title, the elegant pursuits of landscape-gardening, the useful occupation of timber growing, on an extensive scale and as an important economy of the state, the propagation and culture of the orchard fruits, either to supply the needs of the family, or with a view to their profit when produced in quantities for commercial purposes, the culture of the various small fruits, which contribute so largely to the health of our citizens, the planting and treatment of the vineyard and the vine, so wouderfully productive

of the purple clusters of the luscious grape; whether we direct our attention to the humble but useful pot-herbs and esculent vegetables that should furnish a large proportion of our daily food, or to the care of the lovely shrubs and flowering plants that adorn our door yards, and enliven the parterres of the lawn, and to the tender exotics that need the protection of glass houses and artificial heat in our rigorous climate, in all of the various occupations, we are pursuing some branch of horticulture.

Now horticulture is an art—it has been called a fine art, the fine-art of agriculture, and such we all believe it to be.

Like every other art, horticulture, to be successfully pursued, must have a scientific basis—and this in two directions; in the first, we must consider all that relates to the soils; in the second, we must study everything that concerns the plants upon and for which we expend our labor.

First then, we shall find it necessary to acquire a knowledge of the soils, their peculiarities, their qualities, and elements, and thus we shall learn their requisite manures. In these investigations we must be aided by the sciences of geology and chemistry.

We shall also need a knowledge of the mechanical condition of our soils, their wetness or dryness, and their power of resisting the extremes of temperature and their hygrometric state; this requires a knowledge of physics. But, as to the soils, we have yet to understand the best methods of its preparation, cultivation and treatment, for which we shall be dependent upon the laws and appliances of mechanics.

A wide range of investigation is thus opened before us, and the important dependence upon scientific research and study must be realized by the student of horticulture while as yet only considering this branch of the proposition.

But secondly, he will also find it necessary to make himself familiar with the nature of the plants with which he will have to deal, whether it be those that are to be cultivated or those that must be eradicated. For this purpose he will be dependent upon botany and the botanists. He must acquaint himself with the peculiar habits and habitats of the plants; with

their climatic and other neccessities, their peculiarities, their modes of growth, and with the functions of their several parts; for this knowledge he must study vegetable physiology.

The extremes of temperature to which his plants may be exposed and the other atmospheric conditions, such as wetness and dryness, and electric phenomena, are all of the greatest importance to successful culture of different tribes, and the knowledge requisite for the solution of these problems can only be obtained from the science of meteorology.

But there is yet another branch of scientific investigations which will require the close study of the horticulturist, so as to enable him to protect his plants from the depredations of parasitic fungi, from the insects, and from other animal intruders. This will necessitate the aid of natural history. In this branch the study of entomology is especially worthy of attention, and with the rapid increase and diffusion of noxious insects some natural history has become absolutely necessary to every one who devotes himself to the delightful pursuits of horticulture. Fortunately for us, noble hearts and willing hands, well fitted to the work, have already undertaken to popularize this study, and the legislatures of some of our states have made provisions for their assistance.

Tne state of Illinois has Dr. Benjamin D. Walsh as its state entomologist; the same position is filled in Missouri by Mr. C. V. Riley. These gentlemen edit with much ability the *American Entomologist*, a monthly periodical of great value, published at St. Louis. We have also Townsend Glover, the eminent entomologist of the department of agriculture, Dr. Asa Fitch, who holds the position of entomologist to the New York state agricultural society, and Dr. Trimble of New Jersey. One of the most valuable works we have on that subject is Harris' Injurious Insects, edited by our friend here present, Hon. C. L. Flint.

It must be apparent, therefore, that the principles of horticulture constitute a vast scheme, based upon extensive studies and stretching over a wide field, so wide indeed, as almost to deter one from undertaking to grasp them. Fortunately for us,

we have already interested some of the best minds in our behalf, and we can point to profound students, in almost every branch of scientific ivestigation, that have devoted themselves to the investigations of the very questions which most interest and concern us. The practical spirit of the age is working in our behalf—and science is yielding her treasures to art; and we have only to collect and collate the knowledge thus derived from the study of nature, and with practical good sense apply it for our benefit.

The philosophy of a former age, falsely so called, consists to a great degree of a collection of guesses. Theories were built up to sustain conclusions that were arrived at in anticipation of events, which, in some instances, never happened. The baseless fabric could not stand, and the beautiful structure of imaginative fancies necessarily crumbled to the ground.

The inductive philosophy, starting with established facts, arranging and comparing these, has given us quite other results. This has remodeled all our philosophy, and has caused a revolution in all our sciences of observation. Our studies are more than ever the investigations of phenomena, the observation of facts. We are no longer so apt to be led astray by the authority of names; in our republic of science each pupil may verify for himself the statements of his teachers and predecessors. The observed fact is of value, because it is a fact, and not because of its having been heralded by a famous name.

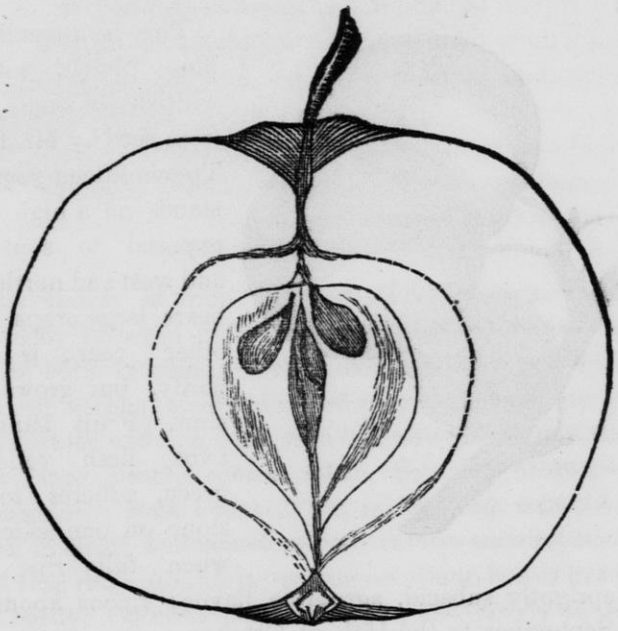
The observations apply with special force in horticulture. Many mistakes are made from this source, and from bad selections of orchard fruits; from wrong treatment and from ill adapted and changed conditions, soil, etc.

Mr. President, through you, allow me to tender to this audience, an expression of the deep sense of gratitutde for their patient forbearance under the infliction of a mere didactic lecture, when they may have come to be amused and entertained. The forensic arts have never been the forte of your earnest, working friend who is also the warm well-wisher for the success of horticulture and agriculture in Wisconsin.

NEW WESTERN FRUITS.

BY O. S. WILLEY.

During the last few years much interest and anxiety has been felt by fruit-growers of the west as to sorts to plant upon which they could rely, feeling that their labors would not be in vain, but that they might eat of the fruit thereof in due season. Happy to say that we now have many sorts which, thus far, have proved quite satisfactory, and are bearing regular uniform crops. Many of our fruit-growers are turning their attention to seedlings, experimenting with the different sorts, with an especial reference to finding something adapted to the



PEWAUKEE.

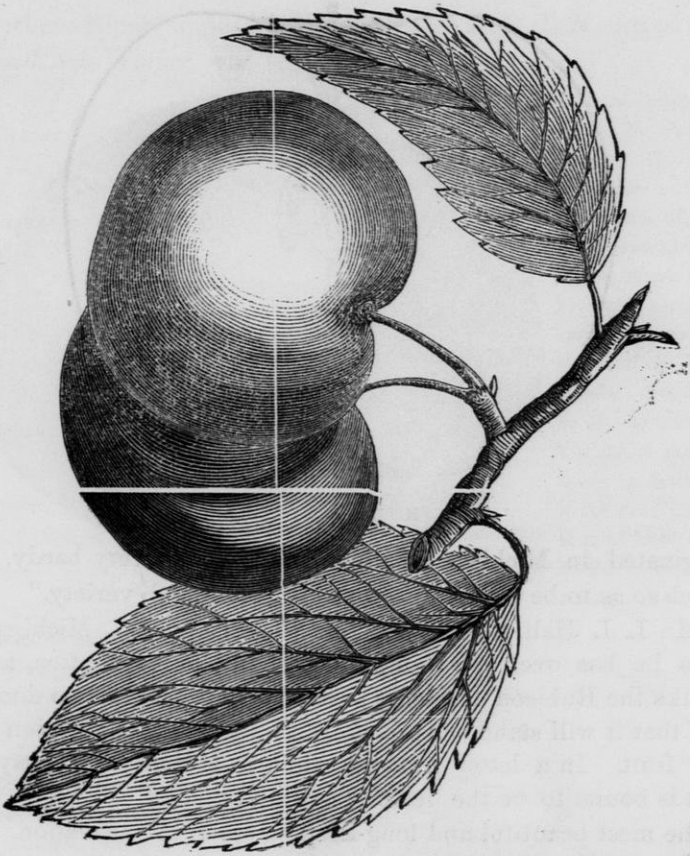
fickleness of our climate, as well as desirable for culinary use. The state horticultural society, in offering premiums, has had the effect to bring out a large competition, among which have been some varieties worthy a more extensive trial.

Among others is a seedling grown by G. P. Peffer and which was exhibited for three successive seasons, receiving the premium of fifty dollars—and named by the horticultural society, the Pewaukee.

Fruit medium to large; round obovate, waved, cavity small; basin shallow and slightly plaited; calyx rather large; stem variable in length, with a fleshy substance on outside, sometimes so large as to turn it clear to one side, from one-half to one inch long; skin dull red on a bright yellow ground, with whitish dots all over; flesh yellowish white, with a rich mild sub-acid flavor; January to June. Tree an upright center; branches at almost right angles; wood very hard; shoots dark, smooth with very white specks.

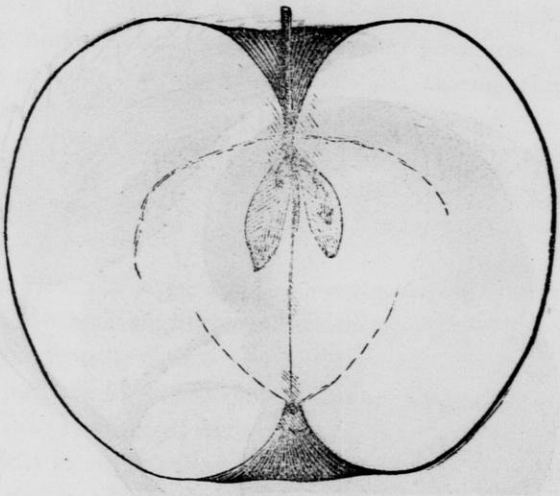
BLUE TWEENS.

This is a small dark blue plum, with a whitish bloom, raised from seed by Mr. Peffer. Tree is fifteen years old, stands on a high ridge, exposed to southwest and west and northwest; bears large crops every other year; is very hardy, but grows very slow. Fruit hangs in twos, flesh yellowish green, adheres to the stone on one side, and when fully ripe of a a rich sprightly subacid, agreeable flavor; ripens about the last of September to the 15th of October.



IMPERIAL WASHINGTON.

This variety is from the seed of a Lombart, apparently crossed by Imperial or Washington Gage, as it has the character of both in some degrees; color red brown, with light yellowish specks; skin thin, and rather tender, flesh greenish yellow, juicy and rich, quite firm and nearly free from the stone. Fruit large, nearly round oblate, flattened at both ends, a slight suture; stalk about 3 1-2 inches long, rather stout, inserted in small and sometimes no cavity, with occasionally a small ring ridge around it; season middle to last of September. Tree hardy, vigorous and productive, and nearly equal to the the Lombart in hardiness; also from Mr. Peffer.



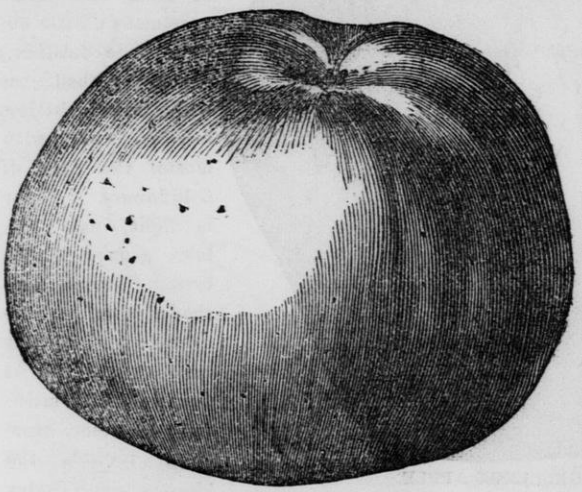
THE RUBICON APPLE

originated in Michigan, where it is said to be very hardy, so much so as to be called by some the "oak grub variety."

Mr. L. L. Hall, horticulturist of Van Buren Co., Michigan, says he has over one hundred varieties in cultivation, and thinks the Rubicon the most hardy of any, and has no doubt but that it will stand our climate, and be a great acquisition to our fruit. In a letter from Mr. Hall, in March last, he says: "It is bound to be the leading market apple of the west. It is the most beautiful and long-keeping apple in cultivation. It keeps until July and August. It is a smooth, scarlet-red apple, about the size of the Baldwin, but every way superior."

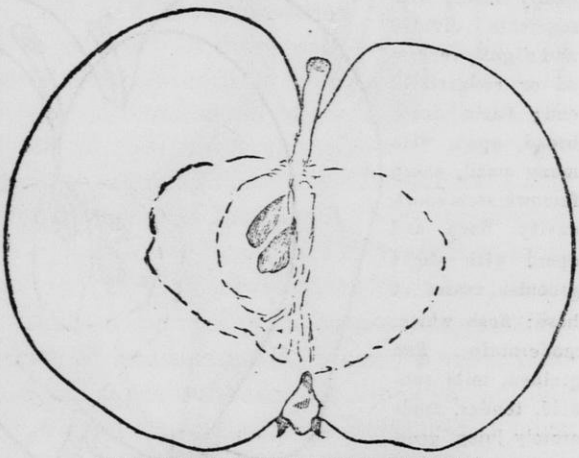
These good traits of quality and hardiness are confirmed for it as far as tried in Minnesota and Wisconsin, and I trust that a wider and more extensive acquaintance with it, over a larger and more varied portion of our state, will confirm all that has been said of it, and, if so, too much praise cannot be given to I. Gould of Beaver Dam, Wisconsin, for exhibiting the fruit at the state horticultural annual meeting, and thus bring it to the notice of our fruit-growers.

For full description and use of cuts of the Reliance and Northern Blush apples I am indebted to D. D. T. Moore of the *Rural New Yorker*, who says:



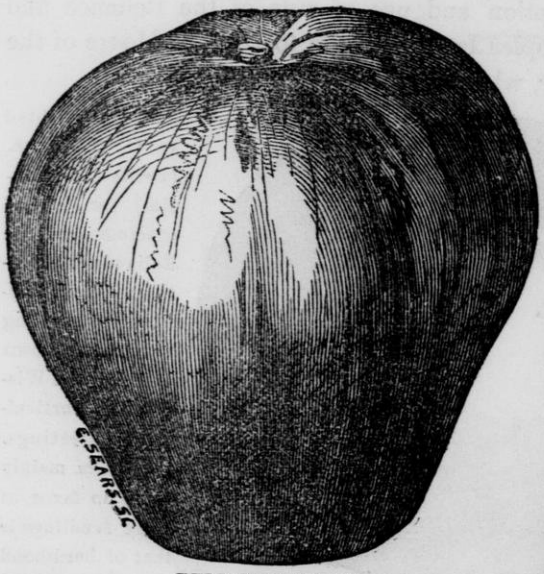
NORTHERN BLUSH APPLE.

"I am indebted to G. N. Smith, (Berlin, Wisconsin,) for several specimens of the Reliance and Northern Blush apples, new seedling varieties, shown at one of the Wisconsin horticultural meetings. The claim mainly made in favor of these seedlings is that of hardihood in the trees, they being the best two in an orchard originally planted with seedlings, and out of which more than one-half have died from the severity of climate, while these have withstood all changes and yearly produced fruit.



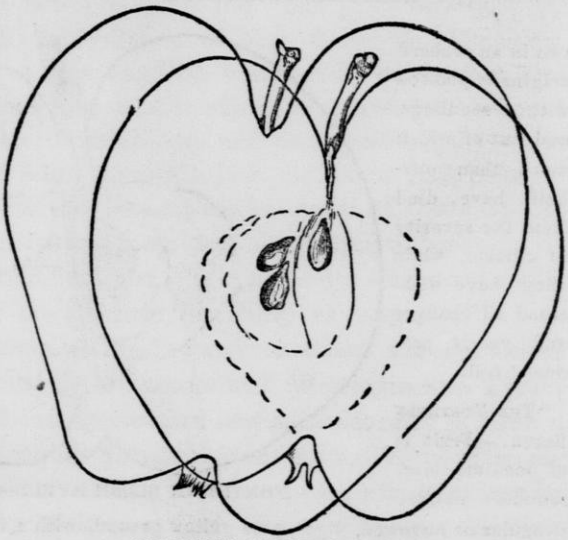
NORTHRRN BLUSH APPLE—OUTLINE.

"THE NORTHERN BLUSH.—Fruit is of medium size, roundish oblate, irregular or furrowed, light, pale yellow ground, with a vermillion blush in sun at stem end; stem short; cavity open, deep; calyx large for size of fruit, half closed; basin broad, shallow, corrugated; flesh white, coarse, spongy, dry, hardly good; core medium; seeds brown, plump; season December.



RELIANCE APPLE.

"THE RELIANCE is of medium size, conical, broad and flat at stem end, some specimens a little oblique, (see outlines,) slightly ribbed, or with broad shallow furrows, as with mostof the class of Gilliflowers. Color is light, pale yellow ground, with broken stripes and shades of red on sunny side; when fully exposed, the red is deepened and maintains its color, especially towards the blossom end; calyx nearly closed, with segments divided and slightly recurved or reflexed at end; basin deep, broad, open, with many small, sharp furrows; stem short, cavity deep and open, with slight greenish russet at base; flesh white, moderately fine grained, mild subacid, tender, moderately juicy, good to very good; core rather open at center, with long capsules; seeds plump, dark brown; season January to March.

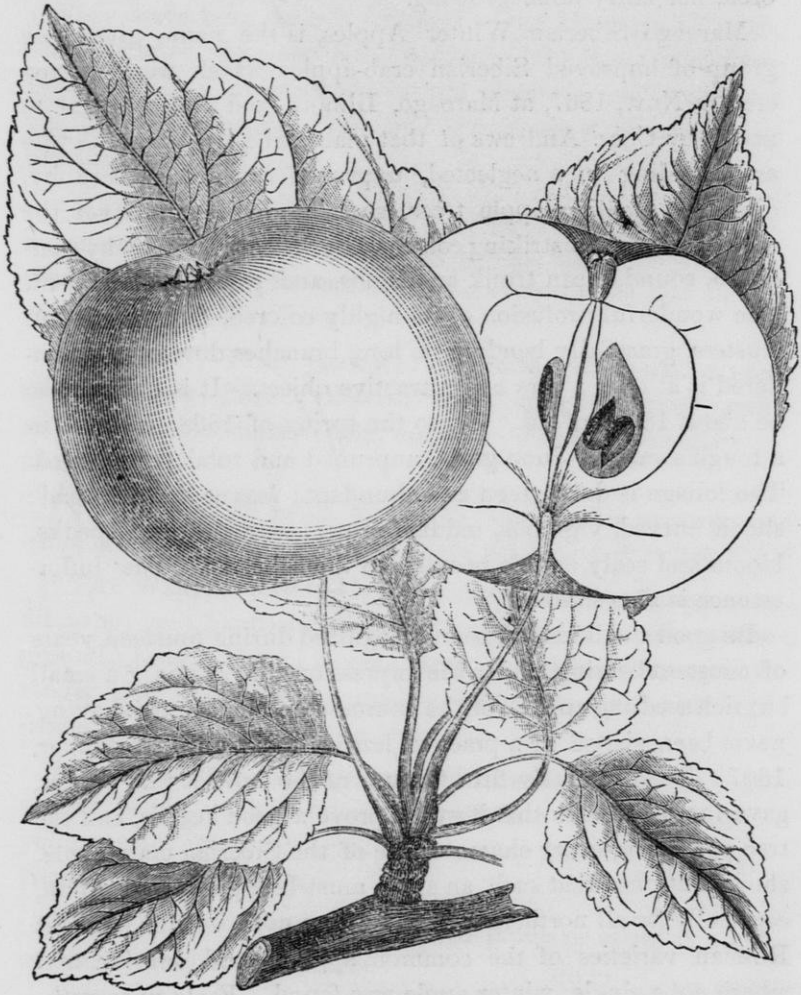


RELIANCE APPLE—OUTLINE.

Another source from which we hope much is in some of the Russian sorts. Grafts from this northern country have been imported, and are now growing in this state. It is to be hoped

that some may prove of inestimable value to our climate. A. G. Tuttle of Baraboo, and J. S. Strickney of Wauwatosa, are, we believe, laboring assiduously in this direction, and have confidence in the most favorable results.

Still another source from whence we are looking for like favorable results, and which has already been crowned with success quite satisfactory, is in the improvement of the Siberian crab-apples. Much has already been done in this direction,



MARENGO.

more probably will be; but we find already something to record which shows progress. At the last state exhibition, held Sept. 25th, 1869, five varieties of the Marengo Winter Siberian apples were exhibited by Dr. C. Andrews of Marengo, Illinois. The largest of these, christened "Marengo," shown here, is much larger than previous years, having improved, we are told, since the tree has received cultivation. Gathered at this date, however,—Sept. 28th— they were not fully colored, nor fairly done growing.

Marengo Siberian Winter Apples, is the name given to a group of improved Siberian crab-apples which were discovered in Nov., 1867, at Marengo, Illinois, and first brought to notice by Chas. Andrews of that place, who describes the tree as "standing in a neglected, unpruned orchard of scrubby, diseased, seedling apple trees, such as are seen all over the west. It formed a striking contrast, by its entirely healthy condition, sound, clean trunk and limbs, and perfectly fair fruit. The wonderful profusion of its highly colored, showy, crimson clusters, gracefully bending its long branches downwards, rendered it at once a rare and attractive object. It is believed to be about 18 years old. Up to the spring of 1868, it stood in a tough sward of June grass, unpruned and totally neglected. The foliage is dark green and abundant; leaves large, broad; shoots curved, vigorous, reddish brown, with the grey specks, bloom and scaly cuticle peculiar to the Siberian. The inflorescence is also similar."

Its good qualities had been recognized during fourteen years of constant bearing, under the impression that it was "a small but rich seedling apple," of the common specie, the tree having never been visited by a practical horticulturist until November, 1867. The extremely firm texture of the fruit at that season, gave the impression that it would prove a good keeper, and the tree possessing every characteristic of the Siberian crab apple, showed at once that such an apple must be a great acquisition, especially for all northern sections where none but the hardiest Russian varieties of the common apple would survive, and where not a single winter apple was found. Facts since gath-

ered prove that the Siberian crabs flourish at points much farther north than even the Duchess of Oldenburgh.

The group of Marengo Siberians are five in number, all found in the same vicinity, and doubtless having a common origin, viz: from seeds of the common cherry and red Siberian crabs sent from Vermont and planted at Marengo about twenty years ago.

They have been named respectively, "Marengo, Chicago, Coral, Winter Gem and Kishwaukee." The first three have been noticed in leading horticultural journals, and in the last edition of *Downing's Fruit and Fruit-trees of America*, they are thus described:

"MARENGO."—Fruit, large for its class; bright warm red on a yellow ground; flesh yellowish white, crisp, juicy, mild, pleasant sub-acid. In eating from mid-winter to late in the spring.

"CHICAGO."—Fruit, conical; rich, warm yellow with a vermillion cheek; flesh yellowish, crisp, sprightly, juicy, rich, mild sub-acid, almost tender, *excellent.* Season, December to March.

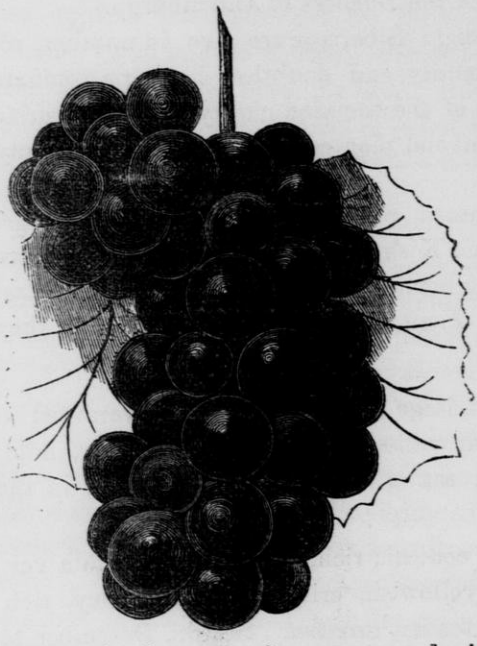
"CORAL."—Fruit small, similar to 'Chicago' in appearance, quite crisp, sprightly, sub-acid, keeps till February or later.

"THE WINTER GEM."—Is about one and a fourth inches in diameter, very handsome, deep red or purple on a rich yellow ground; heavy bluish bloom; flesh yellowish white; juicy, tender, rich, mild sub-acid, quality best; use, ornament and dessert. Season, January to March.

"KISHWAUKEE."—Large, one and three-fourths inches in diameter, bright golden yellow, spotted with russett dots; flesh yellow, crisp, agreeable, acid, rich; quality good; use cooking. Season, February to May.

The Marengo is the largest of this group or about two and one-eighth inches in diameter.

THE JANESVILLE GRAPE



originated with F. W. Louden of Janesville, Wisconsin, from seed saved at the Rock Co. Fair, in 1858, fruiting the third year from the seed. The vine is healthy, perfectly hardy, of strong luxuriant growth, and very productive, ripening about the middle of August; bunches medium, compact, and shouldered; berries large, round, black, covered with a light bloom; flavor sprightly, not very rich; fair, but not first-rate; producing a first-rate red wine, (not quite equal to the best European grape, as is claimed for most new candidates), but possessing characteristics greatly surpassing many of the kinds now in cultivation; enduring the severe cold of the past seven winters without protection, bearing abundantly each year. The state society offered a premium for the best seedling grape, fruit to be shown for three successive years. At the fall exhibition of 1868, the premium was awarded to the Janesville, as the best and worthy of cultivation, and christened by the president as the "Janesville," from the city of its origin.

The demand for new seedlings has had the effect to put the whole horticultural fraternity on the *qui vive* for new Siberians, and already some scores have been figured and described by our leading pomologists in various horticultural journals. At this fair there are on exhibition forty-seven varieties by actual count. Among these are some new fall sorts of deci-

dedly high merit as dessert fruits, especially Plumb's Nos. 1 and 2, which are delicious, sub-acid, fine grain and tender; also Brier's Sweet, by A. G. Tuttle, which measures two inches and a quarter in diameter, very sweet and rich.

We congratulate the whole country on the addition of these peculiarly hardy fruits to the list of our staple luxuries. The demand for such fruits will not be confined to particular regions. They are valuable in every section, and especially so in the extreme northwest. The only, and we may say the great danger, lies in running after these sorts too exclusively, and to the neglect of some others much better, which in some cases might be substituted; but even in this case, the Siberian sorts will serve a good purpose, namely, as stock to work the other varieties on; so with all fidelity to the one great object in view, a plentiful supply of fruit for the masses, we say press on, import, plant seed, hybridize, or anything else, no matter what or how, so that we have good fruit, and that in abundance.

LOCAL HORTICULTURAL SOCIETIES.

MADISON HORTICULTURAL SOCIETY.

The annual meeting of the Madison Horticultural Society was held Friday evening, November 12, at the rooms of the State Agricultural Society, president Leitch in the chair.

The treasurer, Geo. A. Mason, Esq., made a report, embracing the following statement of the finances of the society: Amount on hand December, 1868, in cash and U. S. bonds, $508.59. Receipts during the year, $295.57. Expenditures during the year $352.18. Balance on hand, $451.98, of which $400 is in U. S. bonds.

The election of officers for the ensuing year was had with the following result:

President—W. T. Leitch.

1st Vice President.—D. Worthington; *2d Vice President.*—T. Brown.

Directors.—Dr. Joseph Hobbins, J. T. Stevens, Dr. N. J. Moody, John Gripper, H. M. Lewis.

Treasurer.—Geo. A. Mason.

Corresponding Secretary.—Dr. Joseph Hobbins.

Recording Secretary.—T. D. Plumb.

Committee on Fruits.—Dr. N. J. Moody, Col. G. W. Farrington, J. T. Stevens.

Committee on Flowers.—J. Gripper, R. L. Garlick, Edw. Thompson.

Committee on Vegetables.—John N. Jones, Gen. N. F. Lund, L. Jones.

Committee on Premiums.—Gen. N. F. Lund, J. Gripper, Dr. N. J. Moody.

Committee on Finance.—T. Brown, Dr. Wm. Hobbins, H. M. Lewis.

It was resolved to hold monthly or fortnightly meetings during the winter months for discussions. The next meeting was appointed for Friday evening, November 26, at which time the by-laws are to be revised.

OSHKOSH HORTICULTURAL SOCIETY.

OSHKOSH, WIS., January 22d, 1870.

O. S. WILLEY, Esq,
Secretary State Horticultural Society:

DEAR SIR:—In response to your recent request, I take pleasure in communicating a few items of information relative to the progress, etc., of the Oshkosh Horticultural Society.

During a considerable portion of the past year, regular weekly meeting were held for discussions upon various legitimate topics, the most of which were well attended, and proved to be not only well calculated to maintain an interest in horticultural pursuits generally, but to develop much *practical* and consequently *profitable* information in the various departments of fruit raising and especially in the culture of strawberries, grapes and plums, which with us may be regarded as specialities. Indeed, our success with the first two of these has been such, both as to quality and quantity, as would warrant us, we think, if we were so disposed, in challening competition with any other section of our noble state.

During the year we held *two* exhibitions, and both with gratifying results. Owing to unaviodable circumstanees, our summer "strawberry and floral exhibition" was held one week too late, consequently much of the fruit was past its prime; nevertheless, we had a fine show, and one which gave a marked impetus to our community in the right direction. The fall exhibition was a grand and complete success. Taking into account quantity, number of varieties, and quality of fruit exhibited, and more particularly grapes, apples and pears, it was the unanimously expressed opinion of impartial and competent judges, that it outrivaled any former exhibition in the state, save and except those of the State Horticultural Society. These exhibitions were entirely *free*, both to visitors and exhibitors, and the premiums offered were not limited to our own county, but open to competitors. The total number of premiums given was fifty-two (52), ranging in value from $1.00 to $5.00; a part of which were given as special premiums by some of our business men, the remainder, and all other expenses being paid out of the funds of the society. While, however, this "*free*" plan has resulted in increasing the *popularity* of the society, it has proved a heavy tax on its members, and hence we propose charging a small admission fee at all future exhibitions

We now number a paying membership of 44, and with a good prospective increase, and unabated zeal; we propose, while heartily co-operating with all, to rank with the foremost in our state, as a society of students aud laborers in the grand field of horticultural science.

OFFICERS OF 1869.

President—James Brainard.
Vice-President—O. H. Harris.
Corresponding Secretary—I. J. Hoile.
Recording Secretary and Treasurer—Jacob Fowle.
Executive Committee—James Brainard, I. J. Hoile, J. H. Osborne, B. Haskell and T. Evans.

OFFICERS OF 1870.

President—Hon. G. W. Washburn.
Vice-President—J. H. Osborne.
Corresponding and Recording Secretray—I. J. Hoile.
Treasurer—Jacob Fowle.
Librarian—Miss N. Fowle.
Executive Committee—Hon. G. W. Washburn, I. J. Hoile, J. H. Osborne, Geo. Hyer and J. M. Rollins.
Committee on Floriculture—Mrs. G. W. Washburn, Mrs. L. B. Reed and Mrs. Geo. Hyer.

Yours Truly,

ISAAC J. HOILE,
Crresponding Secretary Oshkosh Horticultural Society.

KENOSHA HORTICULTURAL SOCIETY.

KENOSHA, Jan. 24, 1870.

MR. O. S. WILLEY:

DEAR SIR:—The officers of the Kenosha Horticultural Society for the coming year are as follows:

President.—S. Galt.
Vice President.—N. R. Allen.
Secretary.—Mark Dresser.
Treasurer—S. Y. Brande.

We are in a more flourishing condition than we have been at any time since our organization, with one exception. Some few persons who had little taste in such matters joined the society at first and have since declined to pay their annual dues and are no longer members. But nearly as many new mem

bers have been elected so that we number but few less than during the first year. In all other respects our condition is excellent. The *Western Farmer* did not come to hand, and we do not know when your exhibition will take place, etc., etc. We should have sent some *Pears* and *Apples*. I had a sample of Flemish Beauty Pears which I designed to send. I did not know that you were the secretary, or should have written to you. My Flemish Beauties are now too much decayed to send. It is common for that variety to keep till January in good condition. Respectfully yours,

MARK DRESSER,
Secretary Kenosha Horticultural Society.

P. S. We should be pleased to receive a copy of your annual report; did not get one last year.

JANESVILLE HORTICULTURAL SOCIETY.

JANESVILLE, WIS., Jan. 13, 1870.

O. S. WILLEY, Madison:

DEAR SIR:—In reply to yours of the 10th inst., will say that our present officers remain the same as last year:

President.—Dr. J. B. Whiting.
Vice President.—S. G. Williams.
Secretary.—F. S. Lawrence.
Treasurer.—S. W. Smith.

I have no correspondence worthy of publication. Yours horticulturally,

F. S. LAWRENCE.

MILTON, WIS., FARMERS' CLUB.

The first annual exhibition was held in college hall, the evening of November 1, 1869, in one of the large reception rooms adjoining the hall. The exhibition embraced several fine collections of apples and pears, both grafted and seedlings; nine collections of sealed fruits and preserves; eleven collections of flowers and house plants; a fair assortment of the choicest vegetables, with some miscellaneous articles to amuse the juveniles.

The chief attraction of this exhibition was the collection of apples which drew the second prize at our state fair, for local society exhibition in horticultural department. During the evening the crowd were called to order to listen to an excellent address by Hon C. G. Williams, of Janesville, who had the undivided attention of a large audience for half an hour.

The desired end of this exhibition was attained, by securing a good working membership, and inaugurating the society in its work, by bringing the people together at the outset to hear a full exposition of the programme of the society, and thus far the citizens have given a hearty sanction to the objects of the association.

Second monthly meeting, December 6, 1869, met in college hall. This being the first meeting for discussion, the following order of business for the regular monthly meetings was adopted:

1. Call for questions.
2. Communications.
3. Discussions.
4. Subject for next meeting.
5. Miscellaneous business.

Under this order, the following questions were proposed for consideration, which we append with a brief synopsis of the remarks and proceedings.

"The folly of planting trees without adequate protection, and the necessity of some effective laws to restrain cattle from running at large."

Besides the protection of shade trees, "The cleanliness of our village and the release from a constant source of anxiety to the planters," it is the duty of this club to urge prompt action. "The college grounds cannot be protected by the ordinary means." A committee was appointed to report upon this subject at the next meeting, and following this to report on the subject of "comparative value end longevity of our shade trees, with a list of varieties desirable," also to report upon "the varieties, condition, and sources of supply."

For future discussion: "Fruit trees—protection from their enemies, the small animals and bark lice." "Pruning and grafting." "Mode and time." "Deep and shallow culture." "What agricultural papers to take." "Cooking food for stock, and the best mode" "The use of land plaster and other chemical manures, also comparative value of top dressing and deep manuring." On this last subject president Whitford is to present a paper at some future meeting. "The legitimate bearings of grape culture on the cause of temperance," with a paper by Dr. E. A. Calkins. "Can we produce our own sweetening, and the culture of the sugar beet for this purpose," is put down for a prominent place on the list of subjects, and the secretary was requested to procure facts bearing on the subject, for the consideration of the society.

"Factory dairying" was put upon the list for the next meeting, and a competent committee named to report upon the same for the consideration of the club, and the establishment of such an institution will be carefully considered.

The goodly number present, and the nature of the questions presented for further discussion, give promise of a series of very interesting meetings during the ensuing year.

J. C. PLUMB,
Secretary.

SUMMARY OF METEOROLOGICAL OBSERVATIONS FOR 1869,

TAKEN AT THE UNIVERSITY OF WISCONSIN.

MONTH.	THERMOMETER IN OPEN AIR.			BAROMETER, HEIGHT REDUCED TO FREEZING POINT.			RAIN & SNOW.		FORCE OR PRESSURE OF VAPOR IN INCHES			PERCENTAGE OF SATURATION.			Amount of cloudiness.	PERCENTAGE OF WINDS.			
	Max.	Min.	Means.	Max.	Min.	Mean.	Am't of rain & melted snow in gauge in inches.	Depth of snow in inches.	Max.	Min.	Mean.	Max.	Min.	Mean.		SW & S.	NW & N.	NE & E.	SE & S.
January.....	42.0	-11.0	23.7	29.559	28.206	28.961	2.69	16.25	2.54	.027	.124	100	63	94	4.8	53	25	16	6
February...	50.5	—1.0	22.9	29.464	28.452	28.932	2.35	8.00	.301	.042	.123	100	57	89	6.2	28	44	16	12
March	59.0	—8.0	25.5	29.659	28.162	28.947	0.49	5.00	.433	.001	.143	100	2	85	5.0	28	42	16	14
April.....	63.0	12.5	36.7	29.467	28.371	28.868	2.72	6.00	.462	.069	.236	100	28	75	5.8	32	27	27	14
May.....	81.5	35.0	54.4	29.259	28 392	28.830	4.90	.....	.812	.165	.376	100	31	73	5.6	26	26	39	9
June.....	78.5	48.0	62.5	29.199	28.240	28.868	6.24	.....	.838	.229	.517	100	41	74	4.6	59	29	4	8
July	80.0	59.0	69.5	29.689	28.242	28.951	3.63	.....	1.029	.425	.655	97	54	73	3.8	53	27	4	16
August.....	89.0	54.0	66.9	29.417	28.385	29.014	5 92	.....	1.270	.359	.642	100	30	79	4.8	20	31	32	17
September..	81.0	39.0	61.8	29.400	28.798	29.033	2.68	.....	.745	.169	.403	94	40	73	4.6	29	22	5	44
October.....	71.0	16.5	37.7	29.361	28.570	28.954	0.66	.....	.429	.053	.178	100	25	65	4.3	43	39	00	18
November...	60.0	11.0	30.6	29.342	28.341	28.862	2.05	12.00	.335	.071	.141	100	51	82	6.8	25	48	11	14
December ..	39.5	—2.5	22.3	29.565	28.514	28.993	2.64	12.00	.232	.040	.113	100	69	89	6.7	37	31	9	23
Sums.....	.....	.....	.....	.....	.....	.....	36.97	60.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Means	66.25	21.0	42.8	.....	.....	28.934	.....	.....	.....	.....	.304	.....	.....	79	5.2	36	32	17	16