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Proceedings of the fifth annual meeting, of the Wisconsin State Cranberry Growers' Association, held at Grand Rapids, Wisconsin, January 12th and 13th, 1892. 1892

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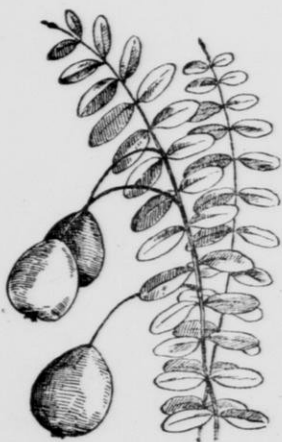
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PROCEEDINGS OF THE FIFTH

ANNUAL MEETING,

—OF THE—

Wisconsin State



CRANBERRY * GROWERS' * ASSOCIATION,

—HELD AT—

Grand Rapids, Wisconsin,

JANUARY 12th and 13th, 1892.



Proceedings of the Fifth Annual Meeting

—OF THE—

WISCONSIN STATE CRANBERRY GROWERS'
ASSOCIATION,

—HELD AT—

CITY LIBRARY ROOMS, GRAND RAPIDS,

January 12th and 13th, 1892.

Meeting called to order at 1:30 P. M., by President Braddock.

The minutes of the August Convention were read and approved.

PRESIDENT'S ADDRESS.

It was my purpose to have prepared a paper upon the question of the law of surface drainage in its legal and historical aspect; but after considerable investigation it was apparent that no good could come of it, for it was hardly possible to avoid taking sides in a matter which has already become a serious one for many members

of the association and is now the subject of litigation in our courts. So it was reluctantly abandoned and in its stead I beg to offer a few practical observations upon some features of the business in which we are all interested.

It will be generally conceded, I think, that the past year has been the most disastrous in the history of cranberry culture in this part of Wisconsin. It was a season of the most protracted drouth known in thirty years, accompanied by the most killing frosts, and in some sections of the most destructive fires. To be sure we have had periods, notably that of four years ago, when there was less rain fall and greater evaporation during the growing season and when our marshes have been actually drier than during the past summer; but as a general thing copious and abundant rains have come to our relief before the season closed, and enabled us to save the maturing crop from early frost. Nothing of the kind happened the past year. There was no rain to speak of from early April to the middle of June, and the rain which then fell was barely sufficient to saturate the marshes and supply the needs of the crop. After this there was a plentiful lack of moisture till the 20th of August when there was only enough rain to fill the ditches. The result was that when the killing frosts of Aug. 23 and Sept. 14th occurred they found most of the growers with their reservoirs dry or nearly empty, and wholly unable to guard against the disaster which followed. Fully two-thirds of the already scanty crop was destroyed, and even the balance that escaped was so chilled that the keeping

quality of the fruit was impaired, and the reputation of the Wisconsin cranberry greatly injured. And then came fire. But why dwell upon the particulars of our tale of woe. Suffice it to say that most of us were disappointed and many feel they have good reason to be discouraged. Now I believe it to be the peculiar mark of the wise and brave man to bear misfortune calmly, to learn some useful lesson from mistakes and failures and as the wise poet says, "out of the nettle defeat pluck the flower success." These three enemies, drouth, frost, and fire, with whom we have wrestled so stoutly, have certainly taught us one thing and all our past experiences only serves to confirm it, and that is, that to grow cranberries we must needs have water, and more water, and still more water. How to obtain it is the problem. One of the best methods of getting it where the source of supply is spongy peat bog, is undoubtedly that outlined by Mr. Bennett two years ago, of making reservoir ditches following the water level through the source of supply. Care should be taken, however, to keep the water as nearly level with the surface as possible, by putting frequent stops in the ditches—in other words, to have the sponge which you are to squeeze when the frost warnings are displayed, soaked as nearly as may be to the point of saturation. Experience shows that, in a peat bog, a ditch six feet wide and two feet deep will drain a section not to exceed thirty rods in width, so that these reservoir ditches might be multiplied, stretching out from the supply ditch like fingers from the hand.

Then too, even with a fair water supply we

should devise means to save as much as possible, for it is usually the case that when a cold wave comes about the 1st of September, scorpion like, the sting is in the tail: we are apt to have two or three frosty nights, and of these the last is sometimes the coldest. If we could manage to save enough water in our reservoirs, which would be nearly exhausted by the first or second flood, so that there would be an ample flood for the third night, it would certainly be a great gain. One of the means to this end, on our natural bogs, is to level our fields as much as possible by thorough rolling. This is, to my mind, of the utmost importance, for it not only economizes water by removing the inequalities of the surface and pressing down the vines, but where moss is prevalent it will break down its structural growth and in time rids us almost entirely of the pest. If flanges are put on the roller it will serve exactly the same purpose as if the crop were picked by hand. Many eastern growers claim that the benefit to the succeeding crop which results from tramping the vines into the bog by hand pickers is fully 33 per cent.

On many of our old marshes the fields are too large; sometimes you will see five, eight, ten or even a greater number of acres in a single field. Where the surface is nearly level the loss is not so manifest, but when the fall is about the average, it becomes a serious matter. For instance: I know a field of eight acres which requires twelve inches of water at the lower dam to maintain a four inch flood on the upper portion. This gives an average depth of eight inches. Now if a dam

were run across the middle of the piece the same depth of water could be held on the upper portion of both sections at a saving of an average of three inches of water over the entire field; and what that might mean in time of emergency any practical grower can easily understand. This is much like saying two and two equal four, but it is often forgotten in our eagerness to cover more territory. But much can be accomplished by the judicious and economical use of even a small amount of water if it is applied at the proper time. This was well illustrated by the experiences of a grower in the vicinity of Mather during the frost of the night of August 23rd last. His crop was scattered over about seventy acres of marsh and the quantity of water in the reservoir was hardly enough for a light flood, so instead of beginning to let the water on early in the evening, as is usual, he decided not to use a drop of it until the temperature had nearly reached the freezing point. Accordingly, about midnight, the sluices were opened and a generous flow of water was kept circulating in the ditches until after four o'clock in the morning. This created a heavy fog which even the light breeze blowing that night could not wholly disperse, and the crop was saved, the only loss being a narrow strip of berries on the west side of the bog. Similar tactics were successfully employed on the night of September 4th, when, as you know, the temperature was even lower than it was on the previous occasion. This, it seems to me, was based upon sound reasoning. When of the two elements the air is the colder, running water parts with its heat very

rapidly; on the other hand, if the water is left undisturbed it will retain its heat for a long time. Such was the fact in this instance, and a much denser fog was created than would have been the case had the water been put in motion earlier in the evening, for the difference in the temperature between the air and water was relatively increased. There was also a considerable saving in the quantity of water required to accomplish the result.

Another lesson which the events of the past year especially teach us is the necessity of concentration. Of course it is natural to strive for the most as well as the best. It is, I think, Emerson who says, "Hitch your wagon to a star;" but the typical western man would be content with nothing less than a constellation for his motive power. Judging from the history of our business during the past fifteen years, it would be perfectly safe to say that if a Wisconsin cranberry grower were given the whole earth under a contract to furnish fruit for the rest of the planets in our solar system, he would not be satisfied; but would be looking about and trying to catch on to every asteroid within reach in order to add to his yield and increase his acreage. There is, you know, a wide difference between theory and fact. Theory is a smooth, plausible fellow who easily persuades us that if a little is good, more is better; that if we can raise five hundred barrels of berries on ten acres of marsh we shall surely get two or four times as many from twenty or forty acres. Sometimes we succeed in doing this and then think that theory must be right; but very soon along comes

fact armed with a big club (it may be drouth, or frost, or fire), and it is not till we have scrambled upon our feet again and painfully rubbed our bruises that we begin to realize what kind of a weapon it was that knocked us over. Fact is cold and hard and brutal, and struggle as we may, he is certain to overcome us in the end; but like Jacob wrestling with the angel, we should not let him go until he has given us the blessing. Now, I venture to say that there has not been a single convention since this association was founded in which we have not been urged by some one to adopt this policy. Time and again we have been told that it was a losing game to attempt to run forty acres of vines relying upon the surface drainage from eighty or one hundred and sixty acres of marsh for the water supply. And yet we have kept right on trying, for it is very hard to give up thirty acres of good vines when the reservoir has the capacity of only ten. But this is just the thing we ought to do—make sure of the ten acres and let the other thirty take the chance of a favorable season. A man who gets \$1,000 every year is obviously better off than one who receives \$2,000 one year and lives and spends in the hope that he may do as well the next. The chances are ten to one his hope will not be realized. There is a marsh in this section which has yielded a crop every season for the past eight years. The wild, or unimproved, part of the property has averaged a crop every other year; but on the improved or cultivated marsh, there has been no failure. Frost and drouth have had but little effect upon it, and even the berry worm

has been content to levy a light tax within its limits. The reason is that everything is concentrated upon this part of the bog. There is a good water supply, but if there is any deficiency, or frost threatens, the crop upon the wild marsh is left to take the chances and suffer from its effects.

The remark of my predecessor, Mr. Gaynor, a year ago, that our industry will have emerged from its barbaric condition when our growers realize that cranberries should be planted and cultivated like other fruits, was especially impressed upon my mind during a recent visit to Chicago and the East.

All the commission houses exposed for sale barrels and crates of berries, the finest I have ever seen. The Cape Cod crop was the best they have had for years, having wholly escaped frost. There were late McFarlands and other choice varieties nearly uniform in size and almost as large as plums, and New Jerseys, tempting to the eye and not at all disagreeable to the palate. But alas! very few Wisconsin. Now the absence or scarcity of our own berries was not what troubled me so much as the excellence—almost approaching perfection—of the eastern fruit, for it convinced me better than any statement, written or spoken, ever could that we are behind the times. And this I am sure, to a western man is especially mortifying. The eastern growers produce not only larger and better looking (I do not say flavored) berries, but they raise more of them to the acre and at a cost per barrel not much greater than we now are able to do in Wisconsin. It is fruit of this character that we must compete with,

and to do this we must adopt better methods of culture and make use of every advantage, natural or artificial, within our reach.

A large percentage of the cranberries grown in the United States find a market in the west—Chicago being the central point of distribution. In view of our experience the past year, it may be absurd to say, but I firmly believe that it is within our power, in the near future, to not only supply and control this western market, but to keep out our eastern competitors. The reasons for this belief are briefly stated:

FIRST.—We have a greater extent of territory adapted to cranberry culture, only a small portion of which has yet been developed. This area is at present limited solely by the amount of the water supply; but it is capable of an immense increase by the adoption of some comprehensive system of irrigation by which the water can be diverted from our rivers to canals and reservoirs and so utilized on our marshes.

SECOND.—These lands are much cheaper than in the east and are in such condition naturally that they can be improved at a cost much below those of New Jersey or Massachusetts. Whether the system employed by Mr. Arpin and others, of plowing and harrowing, rolling and planting, or whether the marsh be leveled by removing the turf with the Gaynor plow, or the sod be turned over in place, we know that the very best improvements can be made at a cost of from fifty to one hundred dollars per acre.

THIRD.—There is little question that on improved bogs which are kept free from foul

growths, we shall soon be able to greatly reduce the cost of gathering the crop by the use of machinery. The rake is already in general use, but a combination of the rake and roller, to be operated by hand or by horsepower, is by some of our ingenious and thoughtful members, considered perfectly feasible and will, I believe, at no distant day, be successfully employed.

FOURTH.—It is also possible on our old marshes to increase the crop and the size of the berry by the use of fertilizers. Eastern growers have done this for many years and there is one man I know in New Jersey who scatters over his bogs every year several tons of decayed fish. A test of the value of this agent was made on the Grand Marsh a year ago last June, when a half ton of fish guano was spread over some old vines which had borne quite small berries for several seasons. It resulted this year in a marked improvement in the size of the fruit, and the yield was also greater than on the adjoining fields. These advantages, actual or possible, are, some of them, within our reach if we only put forth our hands to grasp them. They can all be achieved if, with firm faith in the future of our industry, we exert ourselves and heartily work together for their accomplishment.

During the past season the system of distributing frost warnings through the cranberry region has been successfully inaugurated. Much credit is due our efficient secretary for the zeal and energy shown in his efforts to bring it about, and we are also indebted to Messrs. Kirkham and Moore, of the weather bureau, and to the officials of the var-

ious railroads traversing this section for their care and promptness which have, more than anything else contributed to its success. Owing to the extreme drouth most of us could not avail ourselves of the benefits which under ordinary circumstances we would be able to derive from it. The system is, of course, not expected to take the place of personal observation and judgment, but to supplement them. It has for its basis the reports of many trained obsevors, covering a wide extent of territory. The signals serve to put us on our guard and they will generally enable us to determine whether or not a genuine Manitoba wave is approaching and to prepare accordingly.

The project of a display at the World's Fair in 1893, was discussed at some length, but it was decided not to definitely settle upon any plan but to allow the present World's Fair committee to act another year, and to use their best judgment in arranging the details.

The statistician not having received the reports of shipments, his report was postponed.

The treasurer's report showed a deficiency of \$32.83, which was partially explained by the unusual expense incurred by the Association furnishing the signals used by the trains throughout the cranberry region for frost warnings. A committee consisting of Andrew Searles, A. E. Bennett and J. D. Potter, was appointed to audit the accounts of the treasurer and report later.

The subject of frost warning signals, as in use at present was discussed. Most growers concurring in the belief that the present system of

frost warnings signals carried by trains, was the best that could be devised at present, and that a vote of thanks be tendered to the director of the Weather Bureau, of Wisconsin, for the efforts made by his department to protect the cranberry industry from the damages by frost. Also to the several railroad companies for their kindness in carrying and displaying the signals.

MR. TREAT.—I have found in fifteen years observation, that if at 2 P. M. the thermometer is below 65°, the wind from the north-west, and the skies cloudless, frost is nearly certain.

The following officers were then elected for one year:

President—W. A. Braddock, Mather.

Vice President—S. A. Spafford, Grand Rapids.

Sec'y and Treas.—J. H. Treat, Meadow Valley.

Members of Executive Committee—H. O. Kruschke, Deuster; C. J. Kruger, Dexterville.

MR. TREAT ON THE EXPENSE OF GATHERING AND
PUTTING UP FRUIT.

Mr. President and Gentlemen:—

My experience during fifteen years has been so variable that the actual cost per barrel is very is very hard to fix; and as I have never been fully convinced that cultivation as practiced here in the west would prove a source of never failing profit. I have allowed my bogs to remain in a natural state, but have endeavored to aid nature to some extent by drawing and flooding where possible. Upon this class of lands the cost has generally been for an average crop about \$2.50 or \$3.00 per barrel. But I think that when we raise 200,000 barrels (and we have the vines to do it), with

eastern crop a like or greater amount, we will have to reduce the cost of placing them on the market or do so at a loss. I think we should bend some of our energies towards the problem of cheaper production.

A discussion followed in which Mr. A. E. Bennett stated that their berries cost, the present season, \$2.41 per barrel, but usually the cost was \$2.50.

MR. BRADDOCK.—Our expense was \$3.00 this season, on account of the frosted berries increasing the cost of cleaning. I think with Mr. Treat, that cheapening berries is an important matter to consider. When we can raise and sell berries at \$4.00 per barrel at a profit we can controll the markets of the West. The early blacks are a great injury to the western grower, as they have commenced to decay and are being crowded upon the market at any price just at the time the Wisconsin fruit is being placed upon the market and we get the benefit of the decline in prices.

MR. KRUGER.—I am of the opinion that we should build our warehouses warm enough so we could hold our berries until needed and then put them upon the market fresh and bright.

MR. BENNETT.—One thing the eastern grower does that we would do well to follow, i. e., to pick only when the fruit is dry. Fruit picked when wet and allowed to be in the sun until heated, and the seeds of decay have been planted, which will continue to thrive until the berry is rotten, still you wonder why those berries do not keep.

The balance of the afternoon was taken up

with discussing whether fertilizers were of any benefit, with the experience of growers who had tried them to a limited extent, with the verdict that fertilizers so far used (mostly barn-yard manure), produced a large growth of vines, but little fruit.

The meeting then adjourned until 9 o'clock A. M., January 13th.

J. H. TREAT,

Secretary.

SECOND DAY'S SESSION.

Meeting called to order by President Braddock at 9 A. M.

The president appointed as a committee on program for next year's meeting Messrs. Potter, Bennett and Seales.

MR. GAYNOR.—*Mr. President and Gentlemen:*

I find that I have been assigned a subject upon which I know nothing by actual experience. I think the paper read by Mr. Bennett at the August convention two years ago contains the best advice on the subject that we have ever had, and I would advise that the same paper be read until the facts therein contained become impressed upon the minds of every grower, and perhaps Mr. Bennett could give us more in the same line of thought from later observations and experiences.

MR. BENNETT.—*Mr. President and Gentlemen.*

I did not come prepared to talk upon the subject assigned to Mr. Gaynor, neither do I think it proper to assist him in shirking his duties, but I have here a paper on the varieties of cranberries in connection with this exhibit. (Mr. Bennett

placed on exhibition, in attractive shape, a case containing eighteen distinct varieties, mostly from Berlin and the East.)

VARIETIES OF CRANBERRIES.

In looking over the products of nature in their wild state and comparing them with the same productions under cultivation, we find in their wild state, both in the animal and vegetable species, the same general laws govern, and these general laws become more apparent as they reach a higher and higher state of cultivation. In the wild state we find but little variation, while under cultivation they have changed almost beyond belief.

We look among all the wild horses of the earth for a Percheron, a Sampson, or a Morgan and find them not.

In 1840, in southern Illinois, there were great numbers of wild hogs, all looking nearly alike, with their big heads, long snouts, long tusks, slab sides and big legs. At that time they differed in color, which seems to be one of the first steps toward improvement; but we might look in vain for a Suffolk or a Berkshire among them, and it was astonishing how soon small tame pigs became wild and how closely they resemble those that had never been tamed.

There is in northern Michigan an island called Hog island, on which tame hogs were placed many years ago; about 10 years ago I was near its banks and was told that there were a few left and that they were in every respect a perfectly wild hog. This reversion to the original wild type showing clearly the source from which they came.

The superiority of our horses, sheep, cows, hogs, dogs and hens are simply developments of nature under favorable circumstances, and man himself owes his development to favorable circumstances.

We look upon the wild plum, cherry, grape, thorn-apple, and wild peach and look in vain for our present early and late varieties with their luscious melting flavor.

Over 900,000 distinct species of animals have become extinct, including all grades from the smallest insect to the monster mastodon. They have left their bones, shells, or imprint to tell the story that they were unable to overcome the difficulties that surrounded them.

Of the number of vegetables and varieties of fruits that have become extinct we know but little owing to the perishable nature of their composition, but there are no doubt millions of them including the one that stood in the garden of Eden.

Darwin's theory of the survival of the fittest only applies to the *wild, wild* world and it cuts no figure where the protecting hand of man defends the weak against the strong.

We plant our gardens and defend the tender plant against all others, and the result is large ears of corn, large potatoes, cabbage, etc.; while without such protection they would all be small, and in time go back to their wild state, or become extinct.

Every animal, every plant, every kind of fruit that has received the protection of man has developed in a short time many new varieties never known to exist before and that never would have been developed except for the favorable cir-

cumstances which the protection of man gave to them. These laws are universal. Applying these laws to the fruit now under consideration—the cranberry—we observe in the west the little gray or moss berry as an original type and extending from ocean to ocean.

When marshes in the east became sanded and the hand of man protected the infant plant many berries dropped to the sand and from them seeds sprang into existence a much greater variety of berries than the original marsh produced, and so long as such favorable circumstances continue we may expect continual additions and improvements in varieties.

The cranberry grower of the future must learn to discriminate between these varieties; to separate the early varieties from the late, the thick skinned from the thin, the large from the small, the prolific from the barren, their adaptability to his particular location and many other essential qualities.

In the East, especially in New Jersey, they are much troubled with berries rotting on the vines, like the water-core apple rotting on the tree.

Mr. Busbee, the inventor of the Busbee cranberry mill, said that on his own marsh with his right hand he could pick where the berries were all sound while with his left he could reach spots where the berries were all soft, or rotten, and that these rotting berries were in patches and also scattered through the marsh. The existence of a fungus growth on the vine or berry may be the cause or the effect of early decay. In a late report the loss from this source alone was estimated at

many thousand bushels.

Now unless a better cause can be shown for this rotting I should strongly suspect that these decaying berries were produced by a new variety of cranberries which have been produced from seed dropped from the young vines during their first or second year. It was long ago observed that berries grown on young vines had a strong tendency to rot, and it would not be surprising if the seed from such should produce some early rotting varieties. The existence of the early black cranberry which keeps only a short time, being only one step in that direction, shows clearly the possibility of another step in the same direction.

57 years ago I was born in western New York, in the finest fruit growing section of the state. At the age of 13 years I had learned to graft and bud, and at 19 I had planted a small nursery from seeds with a view to developing some new varieties of fruit. On my father's three farms there were, all told, about 400 apple trees; about 100 of these had been grafted, leaving about 300 trees still bearing their native apples, and no two of the lot were alike. The grafted apples were kept separate and sold by their proper names, the balance were gathered and mixed like our cranberries, some good keepers, others keeping but a week or two, all went in together to feed the hogs, to the cider mill, or into the cellar bin for winter use.

Let us remember that at the time the seeds were planted from which these trees grew, there was not a foot of railroad in the world, for they were old trees when I was a boy. They were

probably raised from seeds which were sent by mail on horseback from the far east to the then far west, (Western New York), or they may have been from some stray apples which found their way to the early settlers. Of the product 300 varieties of apples were produced, only two or three of them all were of real value, showing that the chance of producing a valuable seedling from such seed was only one in one hundred.

Slow and uncertain as this process is, it is the only source for obtaining new varieties of apples. So with the cranberry, all new varieties come from the seed. With the apple, strawberry, peach, plum and cherry, the improvement has been so great that the original wild varieties no longer find any place on the markets of the world. Who of to-day would think of planting the wild strawberry and putting them on the market in competition with the Wilson, Jessie and other popular varieties. So with the wild cranberry of to-day, in time it must go; its stay is short; it finds a place in the markets now because there is not enough of the better varieties to supply the demand, and also to the fact that many of the larger varieties are of an inferior quality and short keepers; but the time is coming when the cranberry grower will apply the same amount of intelligence to the growing of cranberries that has been given to the apple, peach, plum, strawberry, etc. Then the grower and the dealer will know the winter keeping varieties of cranberries from the fall fruit by their proper names, shape and color, and each kind will receive its proper price the same as the fall and winter apples do at the

present time.

The next ten years will show a vast advance along this line, probably 20 new varieties will be added to our list, and this convention will be expected to be able to list them correctly, and to recommend as worthy of cultivation some of the early and some of the late keepers; and that there should be a sweet cranberry discovered is not beyond the possibility of the near future.

The farther removed the animal gets from the wild state the more rapid is the improvement and the moulding hand of man finds in each succeeding generation better material to work on; so in the cultivation of any kind of fruit, each step in the line of improvement makes the next step easier, and the results more and more certain.

Favorable conditions will often change the size, color, shape and flavor of fruit. This is fully proven by the fruits now being raised in California which were not native in that country, but being transplanted from the sterile soil of New England to the fertile valleys of California aided by irrigation and a favorable climate, many kinds of fruit have more than doubled in size, and the shape and flavor are materially changed in some cases.

If we were to transplant our cherry berry to a favorable spot in California and give it proper irrigation and the longer season to grow in, they might send us back as the result, berries full an inch in diameter, also changed in color and shape to a limited extent; but bring the vines back here and subject them to their former conditions, and they become the cherry berry again. The egg plum of California, one of which will fill an

ordinary tea cup, if planted back in New England becomes a dwarf by the side of its California brother.

We no doubt have on our marshes cranberries which are like our Duchess apples, fair to look upon, but impossible to keep for a single month. We know the Duchess apples at sight, but who has learned to point out the Duchess cranberry?

The Ben Davis apple that will keep until apples come again is well known, but who can point out the Ben Davis cranberry? In less than 10 years from now there will be 50 voices that could answer, "I can do it." Then will the war on worthless varieties commence in earnest. In western New York many thousands of apple trees have been cut down as incumbering the ground, and have given place to well known valuable varieties, and an appreciative public are willing to pay for the change, while the old fogies that did not cut theirs down are still raising pig apples.

We raise cranberries for profit not for fun, and what has been found most profitable in all other kinds of fruits, animals and vegetables, will surely apply to the cranberry. The best of everything is the most profitable to raise.

Which variety among cranberries is the best with our present knowledge is very difficult to decide. We know but very little except on a few points and we will confine our remarks to these and wait until we get an increase of knowledge, which time, and the World's Fair, I hope, will give us. One thing is certain, the most productive variety in the world would be the most desirable, other things being equal. The second point is

equally certain, that the largest cranberry in the world, other things being equal, would be the most desirable. Third, a dark red colored variety, other things being equal, would be most desirable, because they do not show bruises and decayed spots as a lighter colored berry would. The early black of the East will pass for sound berries when so bad that 50 per cent. of them would be rejected as unsound if they were lighter colored. Fourth, the earliest variety on earth would be the most desirable, other things being equal. Fifth, the longest keepers. Sixth, the best flavored.

The shape of the berry, name, by whom grown or when or where, cuts no figure. In selecting the best variety, if we take a lesson from nature, we will soon learn how impossible it is to combine all these desirable qualities in any one variety. In all the ages past nature has never united any three of them.

First, the most prolific in nature are small. Gnats and flies increase by the million. The eagle, condor, and ostrich increase very slowly. The minnie fish breed by the million, whales are scarce. The extremely large in everything are not prolific.

Again, that which ripens early soon goes to decay; this is an inflexible law of nature. We can never combine these two qualities of early ripening and long keeping. The apples that ripen in harvest time and the early fall, are fall apples and soon decay. That which keeps best matures slowly, and as it were, in the very shadow of winter. The dark colored are thick skinned and often of poor flavor, and especially is this the case

with the cranberry.

There may be a possibility of combining the two qualities of dark color and good flavor, but before it is done the public will have learned that for fine quality to select the light colored. The public are slow to learn, and still slower to unlearn. In seeking after a perfect variety of cranberries, we are like the ancients who sought for the unknown God. They thought they knew what he ought to be like but could not find him. With our present limited knowledge, the safest course seems to be to avoid all extremes. A cross between the extremes of any species tends to produce a medium and is often prolific, while a re-cross is often barren, so that we might expect to produce a medium sized berry that might be even more prolific than the small one.

Starting with this medium sized berry and aiding it by furnishing it with favorable conditions so that its growth may be uniform, then shielding it from the early frosts of winter, and allowing it to slowly come to maturity—all this would produce a good keeper, provided it contained the right elements to start with. To aid it still further in its keeping qualities, we should be very careful not to mix with it a single berry whose keeping qualities are not fully equal to its own. This is an important point, for as long as fall and winter berries are mixed, the decay of the fall berries will affect the value of the winter variety.

In the matter of quality, we who have been raising berries eat our own, and the taste or flavor of other varieties has not been tested by many of us. In this respect I have had better opportunities

probably than any other person present. I have traveled extensively in the non-producing sections of this country where cranberries were shipped in from every quarter. I have also bought different varieties of cranberries on the Chicago market and taken them home and had them cooked in the same manner as our own. I have also made many inquiries of merchants and their married clerks, where I found them selling both the eastern and western berry, as to which they preferred for their own family use. The testimony from this source and also my own experience has been decidedly in favor of our western berry. I never found but one man who said the flavor of the eastern berry was the best, and he was a Boston man fresh from the hub, and as he then lived in Chicago where nearly all the berries this fall were eastern berries, the probability is that he had been eating eastern berries cooked in lake water which made the difference.

I sent my sister in Massachusetts a barrel of our cranberries. She had always used the eastern berry, and finding the ones I sent her of better flavor she distributed them among her friends and acquaintances, and she wrote me back that they all pronounced them the finest flavored cranberry they had ever tasted. Mr. Stansbury also sent some of his berries to the east and received back the most decided statements in regard to their superior quality. The east raise on an average a larger berry than we do, but in the line of quality we hold the golden prize. From this then, it would seem that the most perfect berry, as far as quality is concerned, will be found in the west.

What we of the West lack is distinct varieties. We need an early berry to meet the demands of an early market. We need an extra large variety to satisfy such as are willing to pay for show and wind rather than substance. The extra price for such must pay us for their lack of productiveness and poor keeping qualities. Then we need a medium sized berry, as large as we can get without sacrificing other good qualities; one that will bear every year by the million, of fine quality and that will keep, when properly put up with ordinary care, until cranberries come again.

We do not need these varieties all mixed up like pig apples; they should be planted separate, so that they can be sold on their merits. All these varieties may now be growing on our own or our neighbor's marshes, but in patches so small as to have escaped our notice, and in the wild state, bearing some years and not others, we lose track of their location. I have some vines grown from the seed the fruit from which I shall watch with much interest, and hope to add something of value to our present varieties, or else add to my present limited experience by their failure.

I have here some samples which I have good reason to believe were grown from the seed, the whole barrel was a mixed multitude just like these, and were grown in this county. The others are mostly eastern berries, showing several varieties differing in shape, color and flavor; also the Lingdom cranberry, from Canada, which is native there, also in Nova Scotia, Norway, Sweden and other places, the finest coming from Canada. I was not able to get a sample of the Early Black.

One wholesale house said they had been out of them for six or seven weeks, and that at that time they were so poor that they were glad to see the last of them. I was surprised not to be able to find any of the McFarland berries on the market. They are the largest variety, and the last year was probably an off year with them.

Moved and carried that a vote of thanks be tendered to Mr. Bennett for his able article, and that the paper be published in the report of the annual meeting.

Several of the points presented in the paper were discussed at some length, all agreeing with Mr. Bennett that we of the west were in all probabilities shipping the Duchess, the Ben Davis and all of the intermediate varieties in the same barrel, but that the different keeping qualities of the same fruit in different years, was owing to the different conditions of the atmosphere under which they were raised.

MR. BENNETT.—I think perhaps on cold nights when near the frost line, that the juices of the slender stem holding the berry, being so much smaller, may be frozen when the berry itself might show no signs of freezing; think the killing of this stem would tend to early decay of the fruit.

MR. GAYNOR.—One reason why the stem would not stand as low a temperature as the fruit, is that the juice of the stem is nearly pure water which freezes at a higher temperature than when it contains any foreign substance, the chemical changes all taking place after the water gets into

the berry, as proven by raising both sweet and sour apples on the same tree by budding.

Mr. Gaynor also explained the Hermaphrodite character of the blossom, and showed how a cross could be effected by fertilizing one blossom with pollen from another variety.

The subject of the best manner of handling and storing to insure good keeping qualities was discussed, and the advice of Prof. Goff reiterated, (i. e.), to keep at as uniform cool temperature as possible, opening warehouses at night and keeping closed during the day.

The question of canning was discussed and all of its possibilities set forth which appeared so reasonable that a committee consisting of Messrs. T. E. Nash, of Centralia; A. C. Bennett, of Appleton; S. A. Spafford, of Grand Rapids; J. S. Stickney, of Wauwatosa; and R. C. Treat, of Meadow Valley; were appointed to make investigation and report at August meeting.

The committee on Treasurer's accounts reported that the accounts were correct and the Treasurer's report was adopted.

It was voted to levy an assessment upon each member to make up the deficit on the Treasurer's books. Adjourned until 1:30 P. M.

AFTERNOON SESSION.

Mr. A. G. Carey, having presented one quart of berries to compete for the prize of ten dollars offered by the association for the best quart of distinct native variety. A committee consisting of Messrs. Spafford, Kruger, Bennett, Potter and Jones, was appointed to examine the berries and

report whether the contestant was entitled to the Premium.

The Committee on program reported subjects assigned as follows:

Irrigation and Drainage laws,.....J. A. Gaynor.
 How can we increase the Price,.....C. J. Kruger.
 Insects injurious to Cranberries,.....H. Kruschke.
 Fruit Worms,.....J. D. Potter
 Meterological observations.....R. C. Treat
 Foreign markets,.....W. A. Braddock
 How best to prepare ground for planting, J. Searls
 How to put up berries well and cheaply, A. E. Bennett.

The Committee upon awarding the \$10.00 Prize reported that as A. G. Carey was the only contestant he was entitled to the reward offered.

MR. SEARLES.—*Mr. President.*

Inasmuch as the berries offered are of several different varieties they do not come up to the spirit or intent of the resolution. I move you that the report of the committee be rejected.

The motion was lost.

Moved that the report of the committee be accepted. The vote resulting in a tie, ballots were prepared and the result was 6 for and 12 against accepting the report.

Mr. Kruger moved that the reward resolution be stricken from the records as it would only breed dissensions. Motion was carried.

The balance of the session was devoted to discussing various topics of interest to growers.

The report of shipments not having been

received at time of closing, the Secretary said he would have them printed in the report.

The next annual meeting will be held at Grand Rapids, on the 2nd Tuesday and Wednesday in January, 1893.

J. H. TREAT, Secretary.

CROP SHIPMENTS FOR 1891.

Wis. Valley Div. C., M. & St. P.....	6,189	bbls.
Total from other points.....	7,336	“
	<hr/>	
Total for Wisconsin.....	13,525	“



CONSTITUTION AND BY-LAWS

—OF THE—

Wisconsin State Cranberry Growers' Asso'n,

As Amended to Date.

ARTICLE 1. This Association shall be known, as the Wisconsin State Cranberry Growers' Association.

ARTICLE 2. The objects of the Association shall be to advance the interests of all engaged in the cultivation of cranberries in this State, by obtaining statistics and information of the condition of the crop in this and other States, from time to time, by establishing and taking measures to insure the use of uniform packages for marketing the fruit, so as to secure the confidence of dealers and purchasers by this evidence of fair and honorable dealing; to enlarge the area of the market for this fruit, through definite and direct action; and generally, by all legitimate and

honorable means to advance the interests of the cranberry cultivator.

ARTICLE 3. The officers of the Association shall be a President and Vice-President, a Secretary, (who shall also be Treasurer,) a Statistician and a Corresponding Secretary for each of the several cranberry growing sections represented in this convention, and an Executive Committee, composed of the President, Vice-President and Secretary, and two others chosen annually by the members. The duties of the President, Vice-President and Secretary, shall be such as are usually implied in like offices in similar associations. The duties of the Corresponding Secretary shall be to gather the statistics of cranberry culture in his particular section, including the name and post office address of owner, amount of ground improved and in bearing condition, the age of such improvements and to report the probable crop in sight, on or before each annual convention in August, and to report at the annual meeting in January, the actual amount of shipments, prices obtained, as far as possible, and to make a weekly report to the Secretary, after the August meeting, until September 30th.

ARTICLE 4. The duty of the Statistician shall be to correspond with, and to receive and collect the information derived from the Corresponding Secretaries and other sources in and out of the State, for the use of the Association, and to report the same at the August and January meetings of each year.

ARTICLE 5. There shall be an annual meeting on the 2d Tuesday of January of each year, for

the election of officers and the transaction of general business.

ARTICLE 6. There shall be held on the 2d Tuesday of August, annually, a convention to receive reports from the Statistician, and to adopt a scale of prices for gathering the crop, so far as may seem practicable.

ARTICLE 7. The annual meetings, conventions and special meetings shall be held at such place as may be decided upon by the Executive Committee.

ARTICLE 8. Any person signing the Constitution and paying one dollar, may be admitted as a member, and the annual dues shall be one dollar.

ARTICLE 9. This Constitution may be amended at any annual meeting or convention, by a vote of two-thirds of the members present.

BY-LAWS.

1. The President shall preside at all meetings, and in his absence, the Vice-President.

2. It shall be the duty of each member to report to the Secretary the conditions of crops, whenever requested. Any member refusing or neglecting to so report may be suspended or expelled.

3. Any Company of growers may be represented by one or more of its officers.



ORDER OF BUSINESS.

1. Reading of minutes.
2. President's Address.
3. Report of Statistician.
4. Report of Standing Committees.
5. Report of Special Committees.
6. Report of Treasurer.
7. Election of Officers.
8. Miscellaneous Business.



APPENDIX.

CRANBERRY CANNING.

A new industry must soon start of great interest to Wood County and especially to the growers of cranberries, a canning factory. Can anyone tell why all other fruit, and many kinds of vegetables are canned, even to sweet potatoes and pumpkins, and not a cranberry? Why should this form the only exception? Some say because of the acid they contain. Apples, peaches, pears, cherries, gooseberries, and all other kinds of fruit contain acid and are canned successfully, and it appears on investigation that so long as the can remains air tight, the can and fruit are perfectly safe.

One reason why cranberries have never been canned is owing to the fact that until lately there have been no canning factories (as far as I know) in the immediate vicinity of large bodies of cranberries, and the cranberry grower hardly thought of it. There is now a canning factory at Berlin.

Wis., I think built last spring, they can corn, beans raspberries and blackberries. I don't think they have touched the cranberry as they find a ready sale for all their Bell and Bugle berries in a green state.

All other kinds of fruit have been canned for years. The business must have been profitable to the growers of the fruits and the canning factories otherwise the business would have stopped long ago. Instead of stopping, the number of factories are constantly increasing, and the proportion of fruit canned to the amount sold green is also increasing, and the sales of each largely increased thereby, and the prices maintained, and the grower and dealer saved from loss in the times of abundance. Why this single exception? There is no excuse for it any longer. I am prepared to demonstrate the fact that cranberries can be canned and put on the market at the same price per pound, canners' pounds, as the green fruit, and leave a handsome profit.

There is millions in it I am satisfied, both to the parties who can them and the producer. With canned cranberries the question of foreign markets is settled, we have all the markets of the world at our feet. How many tomatoes would be sold if they were not canned? Not one-tenth as many as now. Of peaches, plums, cherries, pears, etc., which are canned, the amount is immense. Suppose none of these were sold only in the green state, you can imagine the glut in the market and the losses the growers would suffer, and their production would decrease to the amount that could be sold in the green state at a profit. With the

canning factories acting as a safety valve no loss need occur.

Many kinds of fruit require more expense to prepare them for the cans than it costs to gather them. The apple, pear, apricot, peach, etc., have to be pared and the core or pit removed. Not so with the cranberry. If the cranberry is put up as it should be for the market, they could be dumped into the vats direct from the barrel. It has been a mystery to many how canned fruits of the very best quality, could be sold as cheap as the green fruit. I enclose a full page from the Grocers Criterion, of Dec. 21, giving quotations on canned fruit from which you will see most fruits is put up in two and three pound cans, and they are so billed out. I was told by an agent of one of the largest grocery houses in Chicago that all two pound cans weighed $1\frac{1}{2}$ pounds and the three pound cans held $2\frac{1}{2}$ pounds. On investigation I find this to be the fact including the weight of the can. These weights are not marked on the cans and the groceryman buys them for two or three pounds and sells them for the same and neither himself or the customers knows the difference.

On fish and oysters it is still worse. On cove oysters you will see by the list 1 pound cans quoted as 4 or 5 oz., and might well wonder what it means. It means this: that one of these cans contains 4 oz, of oysters the other 5 oz., yet each are sold for a pound, the balance being soup. This wholesale groceryman told me that this short weight on fruit cans was universal, it made no difference whether the fruit came from California or any other state; and that he knew of only one

factory that put up actual weight, a 3 pound can of tomatoes full net weight. This party is no doubt a grower who seldom gets beyond his garden fence, and probably thinks there are tricks in all trades but his, if he would get out of his fence he would soon find some in his. This may seem wicked and a cheat but look at the size of the legal standard cranberry barrel and you will be silent. Now this $\frac{1}{2}$ pound shortage on weight makes a vast difference in the figures and cleared up the mystery as to how canned fruit can be sold so cheap. This party also said the 3 pound cans cost, including label, actual cost, 20 to 25 cents per doz., the 2 pound cans 15 to 18 cents, but of this he was not sure and promised to investigate and give me the corrected figures. In figuring it from tinner's stock sheets, good quality, 140 square inches, 10x14 in., costs 3 cents. You can measure the cans in the grocery and make your own estimate.

With the price of sugar at $4\frac{1}{2}$ cents per lb.

“ 100 lbs. of cranberries at 6 cents “

“ pure water at “

We figure 100 pounds cranberries at 16 ounces to lb., 1600 oz.; 100 lbs. sugar at 16 oz. to lb., 1600 oz.; 1-10 part water added at 16 oz. to lb., 320 oz.; total net weight in ounces, 3520. Now allowing 2 oz. for the cans and label (2 lb. cans) actual weight 24 oz. less 2 oz. for can, 22 oz. net. 3520 divided by 22 equals 160; showing that 160 lb. cans can be filled from 100 lbs. of berries. As there are 2 lb. cans according to the canning scales, this gives us 160×2 equals 320 lbs. at a value of 6 cents per lb. (the price of the green

fruit) we have $320 \times .06$ equals \$19.20.

Cost of berries, \$6.00

Cost of sugar, 4.50

Cost of water, 0.00

\$10.50

\$19.20 less \$10.50 leaves \$8.70 profit out of which to take the cost of cans and boxing and other expenses. This is figuring cranberries at a low price. When the green berries cost more the profit will be greater as the cost of canning will not be increased and the sugar and water go in at the increased price. At \$10.00 for 100 lbs. the profit would be value of the canned fruit at 10 cts lb., \$32.00,

Cost of 100 lbs. berries, \$10.00

do do sugar, 4.50

do water, 0.00

\$14.50

leaving a profit of \$32.50 less \$14.50 which leaves \$17.50 out of which to take the same expenses.

I told you there was millions in it, have I not proved it both to the grower and the canning company? To the grower we save his berries and insure a ready cash market no matter how large the crop. If put on the market at the price of the green fruit, I would agree to go on the road and sell 500,000 cans the first year or forfeit my salary. I know they will sell like hot cakes, and in 10,000 places where none are sold now, and they could be shipped to the ends of the earth if necessary, but if canned in good shape the United States alone will take all we can raise. The area over which the cranberry can be grown is less than any

other kind of fruit. The proportion of that area which will produce them with profit is very small, much less than is generally supposed. The grower finds this out often to his sorrow. This makes the canning of this fruit easy to regulate. Only a very few canning factories for this purpose will ever be needed, and if the factories and the growers will pull together as they should, there is millions in it for both. I should favor the location of such a factory at some central point in the vicinity of the marshes, where neither party could have a chance to play hog on the other, and where they would be more likely to pull together. At the Junction of the two R. R's at Centralia, or Grand Rapids, at Babcock, Necedah, or Valley Junction. I am not blowing the bugle for any place, but let it be near the growers where they can be shipped in from the marshes and the barrels or crates can be returned to the growers and be refilled, which of itself is quite a saving. All railroads west of Chicago return empty beer kegs and barrels at $\frac{1}{2}$ of 4th class rates in small quantities. This is a saving we would get. If the berries are canned for Chicago or Milwaukee or other parties special arrangement might be made to have them canned in transit, the same as wheat is milled in transit. A carload of wheat is billed at some station in Dakota direct to New York. When it gets to Minneapolis it is unloaded and ground into flour and is sent on to New York under the original billing; this saves paying local freights—tricks in all trades but ours.

As nearly all the work in the factory is light, a large portion of the labor can be done by women

and children. In all the canning factories I was ever in, a large part of the help was women and children, and anything we can do to aid this class of people should be done. The lumber for boxing is here, fuel is cheap, pure water is plenty, help of this kind can live here cheaply. Cranberries will be here in the near future so plenty that the old croakers will no longer repeat, parrot-like; that we had more cranberries before we had any improvements. Some think a canning factory will not pay because it would be idle so much of the year. Let me ask you, would your marsh be more profitable to you if you were to extend your picking from September to December? It would not be standing idle so long, you answer, no, and get all the help you can and secure them before they spoil. So with the canning factory. No berry should be canned before Sept. 15th, and none after Dec. 15th. No grower can afford to hold his berries even that late, and the factory can work to better advantage before extreme cold weather, with its short days, comes. One thing should be distinctly understood to start with, that,

1st. Berries should be bought by the pound, and everybody's berries be emptied out soon as received.

2nd. Not an unsound berry should be received, or ever canned under the brand of "Excelsior."

3d. A sorting room should be provided where all berries not up to grade should be re-sorted at the grower's expense, or returned to the grower.

4th. On the top of the can where it would be opened, should be a label, reading, "All canned fruits, of every kind, should be removed from the

can as soon as the can is opened, and placed in a glass or porcelain pan or dish. The contents of this can will keep in good order after being exposed to the air under ordinary circumstances—" (here state the time, which, in the case of the cranberry preserves, would be a very long time.

5th. For label I would suggest in addition to an attractive picture of growing berries, that they be branded "Cranberry Preserves," this would be a very attractive brand and at the low price of sugar we can afford to use lots of it, and pure water costs nothing.

6th. Place on the can an analysis of the fruit with the signature of an eminent chemist.

7th. Below this, place, in prominent letters, (This is the healthiest fruit that grows from the earth, containing some acid combinations and ingredients not found in any other fruit.) We could secure any amount of endorsements to this from prominent physicians and enter them below it.

This is an important thing. The rapid introduction of celery and tomatoes owe their prestige all to the fact that they were puffed as healthy, whether they are or not the imagination helps to make them such, and their consumption is immense when we consider the short time they have been on the market. Brand these the healthiest fruit that grows from the earth, and the healthiest woman on the earth will imagine she would feel a little better if she should eat some, and others who don't know what ails them would surely buy some. I have talked with small grocery houses, who never handled a cranberry, about canned cranberries, and I never found one yet but what

said they would buy some if they were put on the market. There is no other way to ever get a properly cooked cranberry distributed all over the country. This is the lever that will pry open the jaws of the millions and open the surplus flood gates, and create such a demand for this fruit as was never dreamed of before.

The low price of sugar has come to stay. Let either party attempt to raise the price and they touch the pocket and palate of the millions and down they go. So with the interstate railroad law which gives to small places and small shippers all the advantages of the larger places and larger shippers. It has come to stay. Like the boon of liberty, once enjoyed, nothing but a revolution can deprive us of it.

The times are ripe, all things are favorable, let us strike while the iron is hot. The details of the business are not new, we can safely follow the beaten path which has made other canning factories a success, we need not grope our way in the dark. I am not in favor of canning the culls frozen, and small berries, as some propose. That would defeat the very object of the association. Let such as wish can them. The best is none too good for me, and none too good for my customer.

Respectfully submitted,

A. C. BENNETT.



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Hardware, Groceries,
FLOUR & FEED,

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Groceries of all Kinds.

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Order from Marshes promptly filled.

Berries for sale in their season.

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* * * *

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