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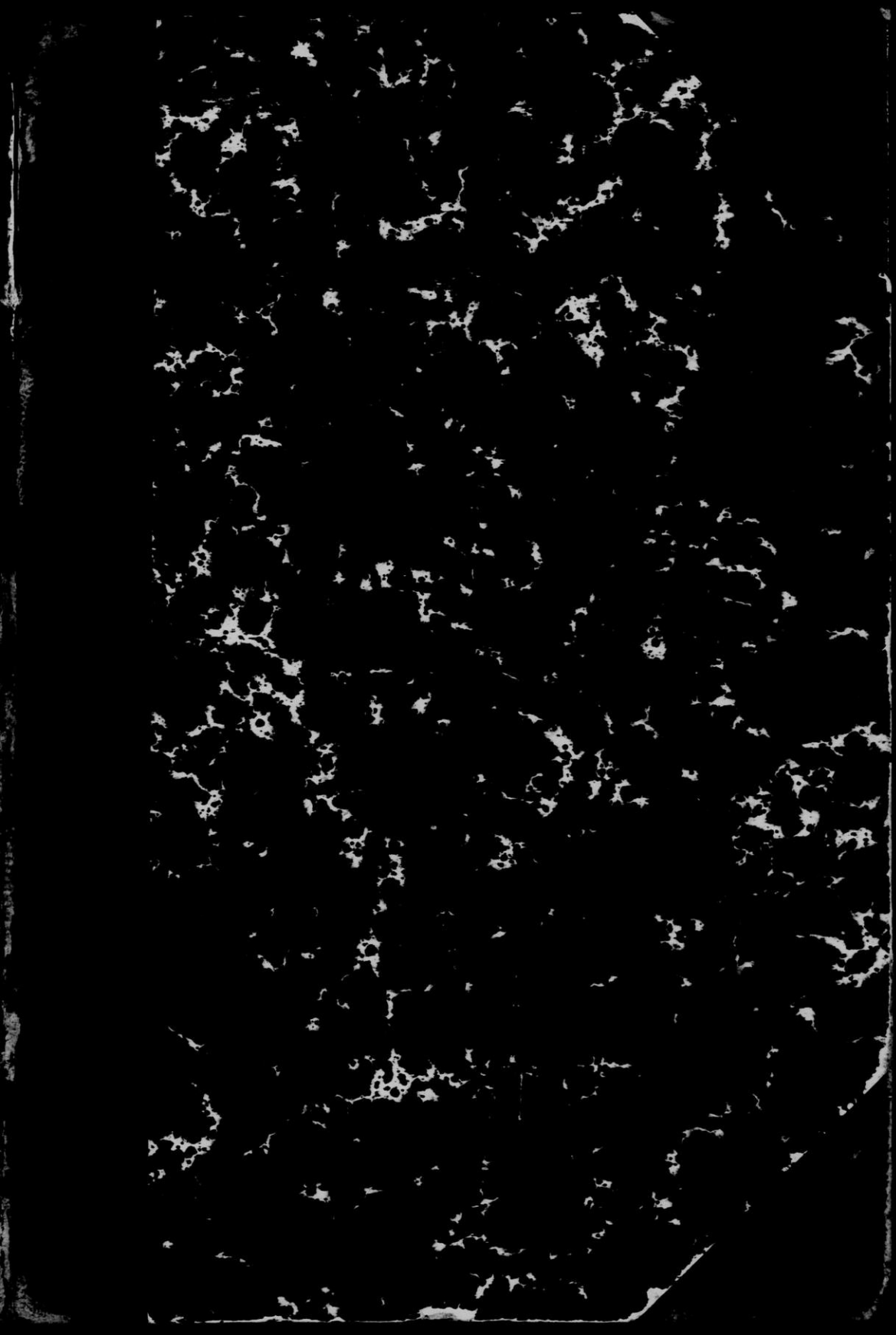
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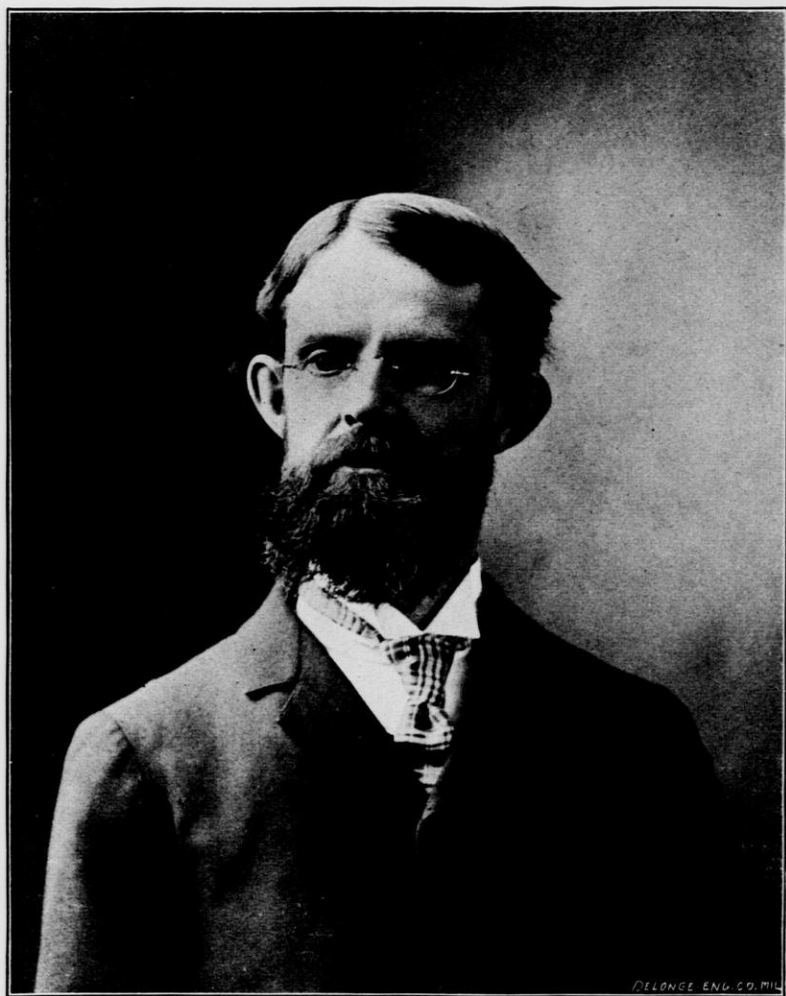
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E. S. GOFF, Professor of Horticulture, University of Wisconsin.

The Wisconsin Horticulturist.

VOL. IV.

MARCH.

NO. 1.

PROF. E. S. GOFF.

By A. L. Hatch.

At a meeting of the American Pomological Society at Boston, in 1887, I first saw Prof. Goff. At that time he was Horticulturist of the Experiment Station at Geneva, N. Y.

At the meeting above mentioned he and I delivered papers upon the same subject. I little dreamed at that time, that the modest appearing young man would ever become associated with myself in horticultural work in Wisconsin, or that he would find a place at our university where he should profoundly influence the horticulture of our state.

Prof. Goff was born at Elmira, N. Y., in 1852. In his youth he showed a natural taste for gardening. His early reading included such solid literature as may be found in the horticultural departments of the Country Gentleman, Rural New Yorker and New York Tribune.

His first fruit growing venture comprised one-fourth acre of strawberries, soon enlarged to four acres, and three-fourths acre of raspberries, with one of his brothers as a partner. One season he carried out an experiment in protecting the plants from spring frost, quite successfully. He soon became a frequent contributor to the press, his first article appearing when he was but seventeen years of age. The excellence of his writings soon brought him to the notice of the public, and in 1882 he was appointed to a position at the Geneva Experiment Station which he held until

1889. Then he received an appointment as Horticulturist of the Experiment Station and College of Agriculture of the University of Wisconsin, and he now holds that position.

While at Geneva he grew over one thousand varieties of vegetables in a single season, besides many fruits. The work he began there has swollen to vast proportions, the apples alone now on trial exceeding one thousand kinds. There, also, he made the first scientific experiments ever made for control of codling moth injury, by spraying, and he was the first person to make and use a pump for making and applying a mechanical mixture of kerosene and water, for spraying purposes.

When Prof. Goff first came to Wisconsin he was requested by the United States Department of Agriculture to continue the experiments in spraying, and at my old home, Hill Crest, in Richland county, we carried on the field work for four years. At the Experiment Station in Madison he has made investigations and conducted experiments that have been published in many reports and bulletins. Some of these are of great import to fruit growers and not available from any other source, notably his demonstrations of root growth of fruit trees and plants.

He largely designed the Horticultural Building upon the University Campus and has furnished it with the most complete outfit of horticultural tools, implements, models and fixtures, for demonstrating practical work in fruit culture and gardening, that can be found anywhere.

In pursuing his duties he has visited all parts of our state and traveled thousands of miles in other states. As a teacher in the Short Course at the University, he has lectured to many hundred different students. When he began teaching there was no established course of study in Horticulture and he found it necessary to create a course and write his own text book. This book, "The Principles of Plant Culture," now in its second edition, is rapidly entering into the standard Horticultural literature of the civil-

ized world, not only for its intrinsic merit, but because it is the only work of the kind. A recent inquiry for it has come from Hong Kong in China.

Fruit growers throughout our state find in Prof. Goff a patient teacher, a genial gentleman and an efficient helper, to whom hundreds of correspondents apply for information upon all features of Horticulture. In conducting this correspondence and his office work he is ably assisted by Mrs. Goff at their beautiful home in Madison.

Prof. Goff has a national reputation as a careful scientific investigator. His life is indeed a busy one, full to overflowing, with the promise of a very useful career, and indicating the accomplishment of much good, in which the people of our state will all share.

Sturgeon Bay, Wis., Feb., 1899.

CONCERNING VARIETIES.

As a rule you might as well undertake to choose a wife for another man as to tell him which variety of strawberries he will like best.

Their general reputation is your guide for plantings until your trial plat has told you definitely which will make you the most money.

The successful grower must be a student. He must study the habits of every variety. You cannot treat every sort alike. They all behave differently on varying soils and so there must be a good deal of experimenting and testing.—R. M. Kellogg in N. A. Horticulturist.

Mosquitoes.—If it is necessary to put a mosquito net over a child that takes a nap on the bed, raise a parasol over the child's head and put the net around it.—A. R. M.

A PLEA FOR QUALITY IN FRUITS.

By E. S. Goff, Professor of Horticulture in the University of Wisconsin.

The opinion is quite prevalent among fruit growers that the consumers of fruit are generally indifferent as to the quality of the article they purchase, so long as the external appearance is satisfactory, and from this opinion, the conclusion naturally follows that quality is hardly worthy of consideration in selecting varieties for planting. This proposition has a bearing upon two conditions that directly affect the fruit growers' interests, viz., the consumption of fruit, and the selection of varieties for planting. If the proposition is true, it must follow that the consumption of fruit is not at all dependent upon its edible quality, but wholly upon its appearance; and that the fruit grower has no inducement whatever to plant varieties of good quality for market. If the proposition is false, on the other hand, then the prevalent faith in its truth must certainly be working great harm to the fruit grower's interests, for he is governing his conduct by false premises, which is always dangerous, and must surely work disaster in the long run. I have, therefore, taken it upon myself to analyze this proposition with the hope of finding out to what extent it is true or false.

If it is true that the edible quality of fruit is of no importance to the purchaser as compared with its external appearance, then it logically follows that fruit is commonly purchased primarily for purposes of embellishment, rather than for food. Can such a proposition stand for a moment? It is doubtless true that choice fruit is sometimes selected with the embellishment idea in view, but such cases are certainly exceptional.

If fruit is not commonly purchased for its edible qualities, how can we explain the amazingly large consumption of the strawberry, for instance, as compared with that of other fruits of equal beauty? I very much doubt that, in

the artist's judgment, the strawberry would be rated a more beautiful fruit than the Hyslop crab or the red currant, yet we all know that the consumption of the strawberry surpasses that of the latter fruits many fold. Why is the Rhode Island Greening apple so popular in the New York and Boston markets if not for its quality? I have never heard it called a beautiful apple. How can we explain the great popularity of the Seckel pear, except for its rare quality? Why are the Delaware grape and the Green Gage plum so popular in the market? If the proposition under consideration is true, it must follow that the Rhode Island Greening apple, the Seckel pear, the Delaware grape and the Green Gage plum are exceptionally beautiful varieties, which we all know is not the case. Examples might be multiplied if it were necessary, but I think it is not, for this audience is too intelligent to believe for a moment that fruit is commonly purchased for any other purpose than for its pleasing and refreshing edible qualities.

We often incline to reproach our city friends for not using better judgment in the purchase of fruit, but in this we are uncharitable, for they use the same kind of judgment that we use in buying articles with which we are not familiar. When you buy bananas, for instance, do you not commonly select those that are largest and that look the soundest and the ripest, unless you are hunting for cheap ones? Do you ever ask for any particular variety of banana, and if you did would you be sure of getting it? When you have found a sample that looks all right, do you spend much time investigating the poorer-looking samples? We have no right to demand better judgment of others than we use for ourselves. We should remember that the consumers of our fruits have not had the same opportunities to inform themselves upon their comparative merits that we have had; that fruits are commonly purchased in more or less of a hurry, and often by irresponsible subordinates, and that they are many times unseen by the mistress of the house

until they appear on the table. The purchaser cannot be supposed to know the varieties of all sorts of fruits in the market, and if by chance the names of a few varieties are known, they are likely to be such varieties as Ben Davis, that have become famous, not because of their good qualities, but because growers, in their avarice, have crowded them into the market to the exclusion of better kinds. Indeed, this explains the demand for this class of varieties. There is a trait in our human nature that prompts us to choose something that we have heard of, rather than something that we have not. A poor thing well known sells better than a better thing less known. And who is responsible for the questionable fame of the Ben Davis apple, if not the growers? There are two classes of varieties that are well known in market: 1st, those that are most common, as the Duchess and Ben Davis apples; and, 2d, those that are exceptionally high in quality, as the Fameuse and Jonathan. The latter fact proves in itself that buyers are not unappreciative of quality.

We may conclude then that the tendency so manifest in the purchasers of fruit to select the best-looking samples and the best-known varieties is both natural and pardonable, and that it is to continue in spite of our remonstrances, and that the growers themselves are largely responsible for the demand that exists for certain inferior varieties. Let us next consider the reflex influence upon the fruit grower of sending inferior varieties to market, and here I cannot do better than to relate a personal reminiscence.

Some three or four years ago, Mrs. Goff purchased a few exceptionally beautiful California peaches for a dessert. They were mammoth in size, of a beautiful golden color, and wore a blush that would rival sweet sixteen herself. Perhaps our expectations were unduly exalted by the lovely exterior, but on tasting them we found them so tough, flavorless and adherent to the stone, that we laid them aside in disgust, and they were consigned to the swill pail. Since then I have

often seen peaches in market that looked just like those, but I never think of buying them. They may be sometimes as good as they look, but I shall never discover it, for I am like Benjamin Franklin in not caring to be cheated the second time. This incident has certainly reduced the sale of that particular grade of peaches in Madison. I doubt if other people enjoy being fooled in this way much more than I do. When we are unpleasantly deceived by a fruit once, we buy it less willingly next time, and the loss comes back upon the grower. If all the bananas in market were equal in flavor and aroma to the finest we ever tasted, would not the demand for bananas be much larger than it is? If all the oranges in market were Washington Navels, would we not buy more oranges than we now buy? If the Ben Davis apple were equal in quality to the Fameuse or Jonathan, would not the demand for it be much greater than it is?

No question is of greater importance to the eastern fruit grower today than how to increase the consumption of domestic fruit. Our markets are continually stocked with tropical and California fruits. The army of fruit purchasers, on whom we must depend for our income, know or care little about us. They buy what they think will gratify their craving for fruit. Sometimes they are satisfied with their investment and sometimes not. When not satisfied, they generally buy something else next time. As fruit growers, it is our policy to see to it, so far as possible, that when they chance to get a sample of our fruit, they will be made hungry for more of the same kind. You need not claim that they do not remember these things. I was once asked to purchase some fruit for dessert, but the supply in market was rather scanty, and nothing seemed more available than some rather small and greenish-colored peaches, of which I tasted. Contrary to my first impressions, they were found delicious, and when served up with cream and sugar, formed a dish fit for royalty. The next day the memory of those delicious peaches was so alluring that I

rode over two miles on my wheel beneath an August sun to get some more of them. It is not true that the average person does not discriminate between the quality of different fruits. It is generally safe to judge the impressions of others by our own impressions, and your or my experience probably does not differ much from that of the average person. In an orchard that is most intimately associated with the scenes of my childhood, was a single tree of the Early Joe apple that was one of the farthest trees from our dwelling. In the latter part of August a path was generally formed across the orchard to this tree, by a quartette of farmer boys, of which I was fortunate enough to be one. It did not matter how wet the grass with which the old orchard was generally carpeted, or how muddy the soil, if it chanced to be cultivated; the visits to this tree were not postponed. We passed many trees of larger and handsomer apples, but these did not allure us in Early Joe time. To our unvitiated appetites the crispness of flesh and richness of flavor of this old favorite overbalanced all other considerations, for we knew a good apple when we tasted it. The fruit was generally small, one-sided and scabby, as the spraying era had not yet dawned, but that did not matter much to us, for our untrammelled tastes placed quality above looks. Nor did it matter how bountifully the tree bore, there was never quite enough Early Joe.

We boys had one advantage over our city friends. The Early Joe tree was permanent, and we could depend upon getting the apples, in their season, by going after them. If city people had Early Joe apple trees to run to, they would soon learn the way to them. But unfortunately they do not. The fruit market is an inconstant, unstable and too often unsatisfactory quantity, and here the fault comes back upon the fruit grower again. How can the marketman keep up a choice and tempting collection of fruit so long as growers bring in only those of Ben Davis quality? There is no doubt in my mind that if all of the apples offered for sale

were equal in quality to the choicest samples, the consumption of apples would soon increase five fold.

We should remember that fruits are in the nature of luxuries. They contribute almost no food, but are eaten, if at all, for their refreshing effects, and for the pleasure they yield to the palate. It goes without saying that the more refreshing and the more pleasing to the palate they are, the more of them will be eaten. It works itself. If I pass a dish of Ben Davis apples to my evening guests, each takes one and it proves enough. If instead I pass a dish of Fameuse, the first one only excites hunger for a second, and it takes twice as many to satisfy them. The same is true of all fruits. We are not likely to accept a second dish of berries unless the first one excited a hunger for more. And we must remember that all these second dishes come back to the fruit grower to be filled.

Suppose a manufacturer were to adopt for his motto, "the quality of my goods is of no importance if the outside only looks well." Would he be able to stand long in the competition of business? The fruit grower, in partnership with dame Nature, is a manufacturer of fruit, and his competition is rapidly becoming as severe as that of any other manufacturer. I know of no reason for supposing that he may wisely ignore the rules that other manufacturers find it necessary to observe.

"But what are you going to do about it?" some of my hearers are mentally asking. "Your theories sound very well, but what do they amount to?" "What good are they going to do us?"

I should not have asked your time to consider a theory that I am unable to apply. There are three ways in which we can work toward the end I am advocating. The first is to refuse to plant a variety that we do not consider good enough for our own table. Varieties like the Champion grape, the Miller raspberry and the Ben Davis apple, that have nothing to commend them except that they look well, should have

no quarter in our planting. A variety that is superior for some one purpose, as for cooking, canning or drying, is all right, and may be grown and sold for that purpose. But a sort that is sure to deceive and disappoint the buyer, and tends to divert his taste from fruit to other kinds of food is a damage to the fruit growers' business and its planting should be emphatically discouraged. I am aware that Wisconsin is not the best state in which to begin this sort of a reform, for the number of varieties that we can hope to grow is much restricted in some of our fruits. But if we do attempt to grow fruit for market, let us grow something that tends to improve the demand for fruit, rather than to destroy it.

The second thing that we can do is to put our fruit upon the market in the best possible condition for the table. This means that it should be picked, so far as possible, at just the right stage of maturity, or at such a time that it will reach the customers in the best stage of maturity. The market for grapes is undoubtedly damaged every year by some growers who insist upon picking their grapes before they are fit to eat, and thus deceiving and disappointing the very persons to whom we must look for our fruit market. Unripe grapes should be kept out of the market by law, if this cannot be accomplished in any other way.

I am aware that in shipping fruit it is often impossible to start it at such a time that it will reach the customers at the best stage of maturity, for we do not always know whom our customers are to be. But in selling to our own customers—and this is the kind of selling that is most to be encouraged—we have full opportunity to carry out this precept, and we should give it all the attention that it needs. We should find out, so far as possible, the purpose for which the fruit is desired, and then furnish a variety that is well adapted to that purpose. If a case of strawberries is ordered for canning, let us be sure that we send a kind, and pick it at the stage of ripeness, that will enable the fruit to

retain its form and color when canned, and not shrivel to half its former size, and take on a repulsive dirty-brown color. It is our business to know the qualities of the varieties that we grow and to inform our customers what they want rather than to require them to make the selection, in their ignorance.

A third way is to educate the consumer by sending out printed matter with our fruits. For example, the Warfield strawberry is known to be excellent for canning. Before tacking the cover on a case of Warfields place a card on top of the boxes, with the words "The Warfield; superior for canning," printed conspicuously on it, with the printed side up; and in a lower corner, request the dealer to place the card upright in the case when exposing them for sale. This is the very kind of information the purchasers are seeking, and they will gladly avail themselves of it. In like manner, place a card in the bottom of apple barrels, labeled, for example, "McMahan, superior for pies," or "Fameuse, choicest dessert apple," etc. Inclosing printed recipes for putting up the fruit in various ways will also prove beneficial in some cases. In the last report of the American Cranberry Growers' Association, the secretary, Mr. A. J. Rider, writes, "It is clear that those growers who have sent out recipes for cooking, in the packages, during the last few years, have aided materially in extending the market for this fruit, as well as to further their own individual interests. There is an increasing demand for such packages as contain this literature, and they are generally given the preference. Some dealers have been so enterprising as to order the recipes on their own account, as a means of increasing trade. It is hoped that those growers who have not been in the habit of putting recipes for cooking in their packages will do so the coming year. None should go to market without them."

I do not wish to be understood that I would advocate giving less attention to the appearance of our fruit than we

are now doing. On the contrary, most growers pay too little attention to appearance. I would plead that we should give more attention to appearance, and that we should aim to have our fruits as fine in quality as they are beautiful in appearance.

This is a transition period in commercial fruit culture. Until recently, the chief problem that confronted the fruit grower was how to produce his fruits. While this problem still faces him, another, not less serious, has appeared in the foreground, viz., how to sell his fruits at prices that leave a margin of profit. Southern and Pacific coast fruits flood our markets to such an extent that there is comparatively little need of our domestic fruits, and the future promises nothing better unless we can develop it. But fortunately, there is one phase of the subject that the fruit grower has hardly commenced to study, viz., the army of consumers. We must study these as the editor studies his readers, or as the politician studies his constituents. We must learn their whims, we must educate their tastes, we must contrive to keep them both good-natured and hungry for fruit. But we cannot do this by cheating them, nor by catering to their eyes without at the same time catering to their palates.

BEST FIVE WINTER APPLES FOR WISCONSIN.

At our recent State Horticultural Convention several prominent fruit-growers from different sections were called upon to name the best five winter apples, briefly describing each. Below are the lists given.

F. H. Chappel of Oregon, Dane Co., gave as his list: Louise, Dominion Winter, Murphy's Blush, Custer's Golden Sweet, Dix' Seedling.

A. D. Barnes of Waupaca named Northwestern Greening, Talman Sweet, Walbridge, Pewaukee, Ben Davis.

A. J. Philips of West Salem: Avista, Walbridge, Northwestern Greening, Eureka (sweet), Malinda.

F. C. Edwards of Fort Atkinson: Northwestern Greening, Windsor, Talman Sweet, Willow Twig, Pewaukee.

Chas. Hirschinger of Baraboo: Scott's Winter, Newell, Northwestern Greening, Borsdorf, ———.

Franklin Johnson of Baraboo: Fameuse, Wealthy, Walbridge, Talman Sweet, Willow Twig.

G. J. Kellogg of Janesville: Northwestern Greening, Windsor, Avista, Eureka, Newell.

Prof. Hansen of the South Dakota Agricultural College spoke upon Russian apples. He said that although he was not a crank on Russian apples, he thought they could be raised in localities where other apples would not thrive. It is his opinion that the seedlings of the Russian apples, if not the Russians themselves, will be the only apples ultimately grown in the Northwest.

His ideal apple would be an apple as good as the Jonathan grown on a tree as hardy as the Hibernial.



WINTER APPLES.

[Paper Read at the Annual Meeting.]

Mr. President, Ladies and Fellow Horticulturists:—

The question of Winter Apples just at this time is of MORE IMPORTANCE than ANY and ALL other QUESTIONS that can be brought before us. The health, happiness and prosperity of future generations depend largely upon the decisions of this Society: our recommendations will influence the men who will this winter graft a million apple trees, and 25 years will not eradicate the errors we make.

Wisconsin has already introduced six or more valuable seedling winter apples, none of which are entirely satisfactory to even southern Wisconsin. Of these Avista, N. W. Greening, Windsor, Eureka and Newell are probably the best five. While Walbridge is valuable on good soil and

with good culture in central Wisconsin it is not worth a cent an acre if neglected and on poor soil. Willow Twig is one of the best paying apples for southern Wisconsin. Murphy's Blush, Everbearing and Milwaukee are promising, while quite a large number of new varieties are valuable, and who is going to test their hardiness, productiveness, quality and keeping unless our State Society? And have we got to wait ten or fifteen years before we know anything only guess work? Where is the committee that should visit these seedling trees and get at the facts, surroundings, dates and figures and report them at our annual meetings? This Society should have a competent committee authorized to spend \$100 a year in looking up this winter apple question, learning facts in regard to varieties we already recommend, and in regard to seedlings.

I have traveled over a thousand miles this winter to get facts of orchardists and nurserymen touching this very question. No one in Northern Iowa, Northern Wisconsin or Southern Minnesota is satisfied with any variety of winter apple he has. Repka Malenka and Malinda are the best Minnesota has. Both of these blight and are but little if any hardier than Wealthy, which is almost a winter apple, grown north; I found Wealthy at Winnebago City, Minn., in nice condition, by the barrel, with common cellaring. Dominion I found in Rock and Dane counties in good condition, good quality, rather below in size but worthy of trial. I visited six orchardists and nurserymen in Rock county who are fruiting N. W. Greening, and I could not find a single specimen fit to show at any exhibition or Farmers' Institute. Nowhere did I find in my travels any good N. W. Greening apples, except at Augusta and West Salem, Wis.; one man at Augusta had them so large that 200 apples filled a barrel, that were perfect and were keeping. Avista and Windsor, if it were not that they both blight, I should put at the head of the list for Wisconsin winter apples. Wherever Flushing Spitzenberg is bearing it is doing well; Newell,

grown north, will keep till January, south only till October. We are having a very unfortunate series of winters, nothing to test hardiness. Ben Davis is fruiting to the northern limit of apple production. I saw grafts in Minnesota that bore as handsome R. I. Greenings as ever came from N. Y. One man in Minnesota raised 150 bu. of extra nice Jonathan on twelve trees, these apples worth \$2.50 per bushel in the Minneapolis market; one man in Green county, Wis., had ten bushels of Jonathan from one tree, worth \$2.50 per bushel in the Janesville market. We are all at sea without rudder, sail, steam or compass. Who will show us land ahead?

GEO. J. KELLOGG.

Janesville, Wis.

STRAWBERRY GROWING IN HEDGE ROWS.

In the hedge row system, the plants are all kept in line making a row only one plant wide. The rows are set nearer together than in the matted row or half-matted row. The advocates of the hedge row claim that it produces larger berries than the matted row, is more easily kept free from weeds and the fruit can be more easily picked. R. M. Kellogg of Michigan, in the North American Horticulturist, thus describes this method of growing strawberries:

PREPARATION OF GROUND.

Now look over the ground and do not set a plant unless you have ideal conditions. First your ground must be rich; indeed it must be VERY rich. It must be full of humus as well as plant food in an available form, and for this purpose barn yard manure is the best, but it must be properly applied. To draw it on the ground and spread just before plowing and at once turn it to the bottom of the furrow, in a mass, is a very great mistake. We want it so thoroughly mixed with soil you can't take up a handful of soil anywhere

in which this manure is not seen. This separates the soil particles so it acts like a sponge.

The heavy crust which forms on soil destitute of humus, after rains, is largely prevented in this way. The crust checks vegetable growth by shutting the air out of the soil, but if this vegetable matter separates the soil grains the crust cannot accomplish this injury.

Draw and spread the manure now so the rains will wash the juices into the soil. Then plow one-third depth, harrow and cultivate until fine, plow full depth and harrow, then re-plow and return the bottom to top and harrow again. Now you have the most of it to the top again right where you want it. This has cost a good deal of work but we shall get it all back twice over by the added growth and ease of future tillage.

SETTING PLANTS AND CULTIVATING.

Now set the plants to be grown in hedge row having the rows not over 34 inches apart and plants 24 to 30 inches in the row. Start cultivator the same day the plants are set. When blossom buds appear cut them off at once to prevent weakening the plants by pollen exhaustion and seed bearing when they have no roots to sustain them. When runners start cultivate close to throw them around directly in line. When you have one runner set each way then for future cultivating attach the Planet Jr. rolling runner cutter which will clip the runners off as fast as they appear.

Set only strong plants, propagated in a special bed known to be strong in fruiting vigor, then every time you cut a runner a new fruit bud and crown will form on the side of the parent plant, but if you have gone to some old bed and taken plants, or have used the tip plants from along side the matted row which formed late in the fall without time to form fruit buds and thereby in a measure lost its disposition to do so, then when you cut a runner other runners will start and several cuttings often intervene before

you get the desired fruit bud. All this causes a great waste. If you have been accustomed to use alley plants abandon it at once.

In "Fruits for 1899," J. H. Hale says, "THERE IS NO ONE BEST STRAWBERRY, though some combine more good qualities than others. The ideal Strawberry for nine situations would fail on the tenth, while the berry that fails nine times out of ten captures the tenth place and holds it against all comers."

PRIDE OF CUMBERLAND.—"Another season's fruitage has convinced me that FOR A LONG-KEEPING SHIPPING BERRY OF FINE SIZE AND GREAT BEAUTY, PRIDE OF CUMBERLAND HEADS THE LIST. If fruit has to be shipped any distance, this is the great berry for the purpose."

"SPLENDID. Yes, yes; it is splendid! Plant of luxuriant growth and Crescent type, but more stocky, with fewer runners; bloom perfect. TREMENDOUSLY PRODUCTIVE of medium smooth, round, bright scarlet berries that are firm and good. ALL WHO FRUIT IT CALL IT SPLENDID."

BRUNETTE.—M. Crawford says that this berry stands at the head for fine quality, but is only moderately productive.

HENRY.—J. H. Hale claims this to be nearly like, if not identical with Marshall.

BARTON'S ECLIPSE is said to be an enormous bearer. It is a pistillate plant; fruit is of "large size, regular form, bright red and of fair quality." "Succeeds in nearly all soils and locations."

BISEL is described by Mr. Crawford as a very profitable market berry, large, attractive, and one of the most reliable. R. M. Kellogg says the Bisel roots very deep, hence stands drouth splendidly. Ripens very early.

LOVETT.—R. M. Kellogg says this is a great favorite and succeeds everywhere. A fine pollenizer. Berries large, quality high, quite firm and foliage vigorous.

STRAWBERRIES FOR THE FARMER.

Ed. Horticulturist:—The following varieties have proven very satisfactory over large areas and they are all perfect in the blossom. Any one of them can be set alone, by the dozen or by the thousand, and no risk from lack of pollen:

Wood (Beder), early, productive, large.

Lovett, medium early, productive, large, firm.

Splendid, medium early, productive, large, firm.

Enhance, late, productive, large, very firm.

Wm. Belt, medium late, productive, very large.

Glen Mary, medium late, productive, very large.

Of the first three one boy picked for us last June at Janesville 230 quarts in ten hours, picking by the day at sixty cents per day.

GEO J. KELLOGG & SONS.

P. S. One of the "Sons" picked 24 quarts in twenty minutes.

G. J. K.

CURRENT EXPERIENCES.

J. S. Stickney.

Some twenty years ago I commenced growing currant fruit for market, my example and inspiration being the memory of a city lot in Milwaukee planted and cultivated by a German acquaintance.

On this lot he produced, year after year, enormous crops of very fine fruit, which in those days brought fabulous prices and made him famous. Being then busy with

other things, I admired his fruit and came to the hasty conclusion that I could readily do as well if I had time.

Later, when I took time and tried, I soon discovered my abundance of conceit and limited amount of knowledge; but my friend and his garden had passed away and with them my opportunity to learn by observation.

As I now remember his work I believe his success was largely due to deeply trenched soil and to skillful and severe pruning,—and, in my negligent methods, the more I have worked towards these lines the better have been results. Yet with eight acres of currants and a thousand and one other cares, theory may be good and practice fall far behind.

Take any well established currant bush, study it carefully and try to judge what proportion of all its wood really tends to fruit production. First you will be inclined to remove interlacing branches until you give a good opening for air and sunshine.

This being done in fall or early spring, most people consider pruning well done for a year; but how about a multitude of sprouts that start up in May and seem in such haste to furnish a full supply of wood for the next pruning? Can we not by prompt and judicious care arrest much of this growth energy and direct it to the production of stronger and better matured wood and fruit, and into more abundant fruit buds for the coming year? I think we can.

Beyond this there is also room for much skill and judgment in removing older wood, encouraging new branches, shortening the stronger and giving a good balance to all.

My first large planting was five acres. In those days there was "money in it." These, the third season, gave a gross income of \$1000,—and the next year gave \$1700. All the return we made was clean culture only, no pruning at all for ten years. Of course crops grew less and quality less satisfactory, until the point was reached of GRUBBING OUT, OR RENOVATING.

We decided to renovate, and commenced by cutting to

the ground all old wood; then, as the new growth came on, we removed the weaker, leaving enough of the stronger to make a foundation for the new top.

Since then we have aimed to give a thorough pruning while plants were dormant, and a partial removal of young sprouts early in June. Last season, the third since cutting back, we gathered a medium crop of excellent quality and the plants give promise of years of usefulness. But market and prices have gone down, down, down, until the vital question seems to be, will it pay? Spoiled as we have been by former good prices, we answer, off hand, No. Then we look about carefully for the thing that will pay better,— and don't readily see it.

In my case, with eight acres of well established plants, the cost of continuing is not great, perhaps one hundred dollars more than to cultivate the same acres in farm crops. This and more is likely to be returned to us. The past season our whole crop was something over 900 bushels, which paid all cost of gathering and marketing and gave us \$200 for cultivation and use of ground.

Our corn crop usually gives us from \$16 to \$20 per acre; other farm crops about the same, so we will continue the currants for a time. I am not at all satisfied with the varieties we grow. Prince Albert is fairly good and because of its lateness fills a useful place, but Holland is too dry and sour to be sold by any man with a conscience.

You remember that I once planted five acres of Fay and in due time dug and burned them. Well, I still have half an acre of them as a reminder of my folly. From these my pride is gratified by a few cases of beautiful fruit, and my patience is cultivated, and perhaps improved, by their utter lack of anything like SELF RESPECT!

I am looking hopefully for a new variety with the upright vigor of Holland and the size and quality of Fay. When that kind appears I shall want to plant another acre. With that thought in mind I am observing Pomona, London

Market and Wilder, all, I think, fairly good, but far short of the ideal.

Our older planting is in rows one way, five feet apart and three feet between plants. Our later planting is in rows five feet apart each way, and is cultivated more thoroughly and with less than half the labor of that in rows only one way. In planting again I would choose rather moist ground and subsoil until I had a loosened soil at least one foot deep. Would not manure very highly fearing too much wood and too little fruit.

In the discussion which followed Mr. Stickney's paper L. G. Kellogg, president of the Wisconsin Horticultural Society, said he had fruited the Pomona currant for two years and was very much pleased with it. He thinks it is the coming currant.

Mr. Chappel of Oregon also likes the Pomona.

Mr. Guilford of Dubuque, Iowa, considered Pomona the sweetest currant among the reds, though not quite as sweet as some of the white currants. The fruit is nearly as large as the Victoria.

THOSE FIVE WINTER APPLES.

[See page 12.]

ED. HORTICULTURIST:—

In Mr. Chappel's list the varieties are all new, but he has tested them in Dane county and KNOWS whereof he speaks and I think no one will be disappointed in buying those varieties of him TO PLANT ON CLAY SOIL. We are testing them and they are fruiting at Janesville, Rock County, and we know the trees are nice trees in the nursery. Try them.

Mr. Barnes' list is what he would plant in Waupaca County. Farther west we should plant shyly of Pewaukee. About twenty years ago it was fruiting heavily in Sauk County, but after a hard winter following heavy bearing

most of the trees died out. What have survived and recovered have given wonderful crops the last season of large, marketable apples and have paid on good, high, clay soils. The Ben Davis is known to PAY and known to DIE. At Montello it has paid in a large orchard better for the last twenty years than any other winter apple; at Middleton it bore some of the finest apples in 1898. Where it SUCCEEDS, plant it again if this winter does kill it.

Mr. Philips' list is particularly adapted to the HIGH, CLAY RIDGES of LA CROSSE COUNTY. The Avista blights badly in Sauk county, on Mr. Hirschinger's ground, and blights some in our nursery, but with less pruning we think it will blight less and pay. We saw the old tree on Mr. Philips' ground this winter that has borne its thirty-one consecutive crops. It is sound, healthy and free from blight.

The Eureka is new, sweet, large, promising and although it blights some in our nursery, we shall still graft it, and between this and Custer's Golden Sweet we shall get a rival for Talman, though where the Talman is a success don't give it up.

Mr. Edwards' list; first four are all right for southern Wisconsin. Plant Pewaukee along the lake shore and further south.

Mr. Hirschinger's list contains Scott's Winter which is a very fine small red apple. The tree is hardy and does well in our nursery and Mr. H.'s recommendation is guarantee of its success in Wisconsin on nearly all locations. Newell is a Sauk County pet and will pay where the Wealthy succeeds. Borsdorf is a handsome, good, small winter Russian and if I wanted TREES OF IT TRUE TO NAME would write to Charley for them.

Mr. Johnson's list contains two that are fall and early winter and are successful all through the state; the farther north the longer they will keep, but we hardly consider Fameuse and Wealthy winter apples. Walbridge, grown on good clay soils, well enriched and properly

thinned, is a profitable winter apple; but if left to fruit at will and neglected it is almost worthless.

In Mr. Kellogg's list we find Windsor again. The old tree stands in Dane County and took its name from Windsor P. O., as it stands in an adjoining town next to Windsor. The old tree must be about thirty years old. The variety has been sent to Canada, where it is a success. It blights in our nursery, but it is almost free from blight in the orchard and is a very productive tree, apple of high quality and keeps till April. C. B. Woodman, a successful orchardist in the town of La Prairie, near Janesville, would plant 1,000 trees of this while he would not set another Northwestern Greening if the tree was given him, and he has had both varieties in full bearing for several years.

The Northwestern Greening we find in five of the seven lists. It is in great demand and there are not half trees enough in the state to fill the orders, but the "tree tramp" can write that name very easily on any tag; be careful of whom you buy trees. This apple is certainly doing well in many places as far north as Augusta. We hope this winter may have tested its hardiness; if it is not hardy, as some claim, the sooner we know it the better.

The Willow Twig has paid us better at Janesville than any other winter apple, for forty years. With all its faults we love it still—BUT NOT TO EAT.

GEO. J. KELLOGG & SONS.

Janesville, Wis.

EXTERMINATING CARAWAY.—Cut just below the surface of the ground with hoe or spade. If mown the plant will grow up and seed the same season. Along roadsides the pest can be exterminated in this way. Where fields of grass or clover are badly infested the best plan is to break them up and devote to some cultivated crop such as corn or roots.
—O. J. Farmer.

CHERRIES IN CENTRAL WISCONSIN.

By A. D. Barnes, Waupaca.

[Paper Read at Winter Meeting.]

To be practically correct I will confine my remarks to my own experience and operations and will say that in the early spring season of 1888, I planted at Waupaca ninety-six Early Richmond and three May Duke cherry trees. All grew the first season but three Richmond, and one tree had two clusters of cherries. The three that failed to grow were replaced in '89 by Blue Damson plum trees. A number of the Richmond fruited in '90, and in '91 I had a nice little crop of cherries; sold some \$40 worth. As soon as the May Duke began to fruit a little they died to the tips of the roots, never yielding over three quarts of cherries. I have never failed to have some cherries on the Richmond since the second year after planting; have always had a good demand for the fruit at a good price, and this orchard has brought me more than \$1000 in cash and the trees are yet in good condition; ninety-one of these Richmonds left.

These trees have a good clay subsoil root bed, overlaid with a sandy surface loam; have had good cultivation the first few years and have been in clover since; have mulched regularly and pruned out the inner branches occasionally in July, just after the fruit was harvested. I always pick in quart boxes and market in crates.

I have demonstrated to my own satisfaction that the Early Richmond is the cherry for business in central Wisconsin.

Since planting this orchard I have planted hundreds of trees of the Russian cherries and other varieties, with disappointment in almost every case. About the only exception to this rule is the English Morello which I have planted quite extensively. Yet the Early Richmond budded on Mahaleb stalks is my choice of all varieties. I am now planting very extensively and shall continue to do so,

Would recommend every land owner to plant at least one dozen of these, if they plant any at all, as they will have just as many BIRDS and boys—if they have three trees as if they have enough for them all.

Substitute the Early Richmond cherry trees for sour crab apples or Russian ironclads, wine berries, or “model orchards” and you will cultivate faith in Wisconsin as a successful fruit growing state.

[Note by the Editor.—The papers read at the Convention and printed in this magazine merely express the ideas of the individual who writes them. Neither the Wisconsin State Horticultural Society nor the editor of the magazine is responsible for them or supposed to endorse all the opinions expressed.]

FOR THE HOUSEHOLD.

TAPIOCA CREAM.

Wash four tablespoonfuls of tapioca. Soak over night in cold water enough to well cover it. In the morning drain off all surplus water and stir the tapioca into a quart of milk. Place over the fire in a double boiler, or in a pail set into a kettle of boiling water; let cook half an hour or more, until the tapioca is soft; beat the yolks of three eggs with one cup of sugar, add a little salt and stir into the boiling tapioca; let boil up again, stirring constantly; flavor with vanilla or lemon, then stir in lightly the whites of the three eggs beaten to a very stiff froth, and remove from the stove. Serve either hot or cold. Can be made Saturday for the Sunday dinner.

PRIZE BUTTER.

One of two women who received prizes for butter exhibits at the Columbian exposition, when interviewed as to her methods said: “I made the prize butter in the old-fashioned

way my mother taught me. I set the milk in stone crocks, skimmed it when I thought the cream was ripe. I salted and worked the butter in the butter bowl, packed and sent it to the fair, exactly as I do for my customers. I am very proud of my success, because it proves that just as good butter can be made in the old-fashioned way as with modern methods and machinery."

Do not understand me to recommend jogging on in the old ruts; more butter can be made from the same quantity of milk with modern appliances, and with much less outlay of time and labor; but no one for lack of these, as has been shown, is debarred from the best results.—Ex.



PREPARE TO SPRAY.

"In time of peace prepare for war."

The April issue of the Horticulturist will be a "spraying number"—provided you who are reading this article will kindly send to the editor an account of your experience, great or small, in spraying. This invitation includes growers of small fruits and flowers as well as orchardists.

In order that you may begin to prepare for the war against fungi and insects, we give below some formulas for spraying mixtures, from Prof. Goff's book, "Principles of Plant Culture."

BORDEAUX MIXTURE:—Dissolve 6 pounds of copper sulphate in 4 gallons of hot water; in another vessel slack 4 pounds of fresh quicklime in 4 gallons of (hot or cold) water. When both are cool, pour the contents of the two vessels together and add enough water to make 45 gallons of the whole. Metal vessels, other than those of brass or copper, should not be used.

The Bordeaux mixture is preferably strained before use, and should be kept well stirred during its application.

KEROSENE EMULSION: Dissolve one-half pound of hard soap in one gallon of boiling soft water; add at once two

gallons of kerosene, and churn, or otherwise violently agitate, for five or ten minutes. For use, dilute with 15 parts of soft water.

No. 2:—Dissolve one-fourth pound of good, hard soap in two quarts of boiling water, and add at once one pint of kerosene. Agitate, as above directed. For use, dilute with twice its volume of water.

PARIS GREEN:—One pound of Paris Green to two hundred gallons of water, for ordinary use. For the peach and nectarine it should be diluted one-half more (300 gallons of water.) Keep the mixture well stirred while applying it.

A LETTER TO YOU.

The Wisconsin Horticulturist is the only exclusively horticultural periodical in Wisconsin.

Does it not seem strange that its worthy editress should be troubled to obtain original articles enough to satisfy what she considers the needs of this journal? If she should fill a number with clippings from other journals you would say, "Oh! it makes me tired to find nothing but copied stuff from eastern cranks, who know nothing of our climate or conditions, but give us advice that would be ruinous to follow."

My dear sir, why do not you write for YOUR home journal? You have had abundance of experience; others need it. Why let the Tuttlés, the Philips, the Plumbs and the Kelloggs do all the writing? Their stuff can be found all over the U. S., and you say rightfully they know no more than you of the ways to successfully grow an orchard tree, a patch of strawberries or a field of asparagus. There are hundreds of people in our State, who are intelligent enough, educated enough, have had experience enough in writing for the press, and above all have had large experience in

practical horticulture, and should help the editor in her labors, by each contributing an article at once, thereby helping to make the "Horticulturist" the leading paper of its line in the "Cold Northwest," a place it can be brought to fill, if your help is freely given.

PLEASE WRITE NOW before the press of spring work is at hand.

There is another and large class that should write. I mean those who have just moved into our state from the East or South and also those of our citizens who have just made up their minds that there is money in fruit raising in this state, especially in apples for market, and are about to plant. They should see the policy of ascertaining what soil and location is best calculated for success, the best varieties adapted to this climate and the most approved ways to plant, prune, cultivate and care for the tree and plant. They should ask questions, through this journal, of the parties who have been through all the troubles of past years in our state, in trying to reach the present encouraging fragments of success. The "party of the first part" will most cheerfully give this desired information if the "party of the second part" states his or her wants through this journal, and thousands will read the questions and look with interest for the answers. Please try it for the April issue. Let us all together LIFT.

A. CLARK TUTTLE.

At the New York poultry show, some very beautiful pheasants were among the birds exhibited, and one of the newspapers tells of an admiring young woman who hung over the pheasants, exclaiming indignantly, "How can any one kill such beautiful creatures for food?" Several unfeeling men in her vicinity smiled at her enthusiasm, but the smile was chiefly aroused by the fact that the sympathetic young woman wore an entire pheasant, tail and all, on her hat!—Rural New Yorker.

EDITOR'S NOTES.

Tree-peddlers will be busy as bees, in Wisconsin, this spring. Don't let their persuasive voices allure you into buying without forethought. It is a solemn thing to plant an orchard. The strawberry bed can be plowed up next year or the following year, but an orchard should stand for at least a third of a century. Its planting should be preceded by careful study and preparation. Learn what varieties thrive in soils and locations similar to yours, then order those varieties from nurserymen whom you know to be reliable. "I that speak unto ye," from the depths of a doleful experience, warn you that it is better to pay twenty-five cents apiece for the RIGHT KIND of trees or flowering shrubs than to pay a cent for the WRONG kind.

As February is the last one of the winter months, is not a man justified in calling apples that keep through February "winter apples?" Our neighbor, Mr. Rounds, remarked February 27 that he had just eaten his last WEALTHY apple and it was sound and nice, adding that the Wealthy kept better than usual this winter. "We" can still treat our friends to FAMUESE apples although this is the second week in March.

We would express our sympathy for Mr. and Mrs. Henry Tarrant, of Janesville, who are bereft of their daughter, Miss Clara. Mr. Tarrant was hastily summoned home from the winter meeting on account of her illness, and she died the following day. Miss Tarrant was a teacher in both public school and Sunday school, and was greatly beloved.

A. J. Philips, of West Salem, secretary of the state horticultural society, was in the village a few days last week the guest of Rev. Philo Hitchcock. Friday evening he attended the Lyceum and made a very interesting address on the educational question, and Sunday evening he occu-

pied the pulpit in the Congregational church. The topic he discussed was "kindness" and although he stated that it was the first time in his life that he had occupied the pulpit of a church in the place of the pastor, he gave a very interesting address, and one which all of us would do well to heed.—Shiocton News.

Geo. J. Kellogg & Sons are increasing their planting of apple grafts. They are now grafting by the thousand. Grafted 4160 one day. Have already sold about 30,000 into Minnesota.

Mr. Guilford, of Dubuque, Iowa, told us at the Annual Meeting that the best plum for family use is De Soto. Rollingsstone is also a good plum. He said, "If you haven't planted Rollingsstone do it as soon as you can."

J. M. Edwards & Son, of Fort Atkinson, in a recent communication, express the opinion that fruit in their vicinity is not as badly injured as they feared.

Reports regarding the Michigan peach crop are conflicting. Some affirm that even the trees are killed; others predict a fair crop of peaches in the "peach belt," a strip twenty miles wide extending along the shore of Lake Michigan.

Baraboo is to have a canning establishment to be known as "The Gem City Canning Factory."



QUESTIONS FOR ANSWER IN APRIL HORTICULTURIST.

What do you consider the best Apple to plant for commercial purposes in Wisconsin? Which is your preference, Wealthy or McMahan? Which is the best keeper? If you were contemplating planting five acres what kinds would you plant? Do you consider a windbreak around an orchard a necessity? What do you think of the Longfield?

THE WISCONSIN HORTICULTURIST.

Published monthly by the Wisconsin State Horticultural Society.

We offer the paper this year for forty cents, without any premium, or for fifty cents, with your choice of the following premiums:

Six fine Gladiolus Bulbs;
Twelve choice Strawberry Plants;
Three Grapevines.

We have no space this month for repeating the many pleasant words people say about the Horticulturist. The fact that nearly all our old subscribers are voluntarily renewing and that our list of NEW subscribers daily increases, is a sufficient testimonial.

Become a subscriber yourself; you will not regret it. Send postage stamps or money order to

THE WISCONSIN HORTICULTURIST,
Baraboo, Wis.

**THE OMAHA MEDALS.**

DEAR MADAM:

Please say in March magazine that the terms made by the managers of the Omaha Exposition, at the beginning, were that all medals awarded would be sent in BRONZE, but that any one whose Diploma called for a silver or gold medal could have the same, in coin or plated, AT HIS OWN EXPENSE.

Also that any one wishing duplicate Diplomas for any award can have the same at \$1.00 each, and duplicate Bronze medals at \$2.00 each, by writing to John A. Wakefield, Secretary of Trans-Mississippi Exposition, Omaha, Nebraska.

Bronze medals are furnished without engraving.

A. J. PHILIPS.

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Note—Frontispiece of Dec. issue of this Journal illustrates
our "NEW PROCESS" plates.

