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Proceedings of the annual meeting of the Wisconsin State Cranberry Growers' Ass'n held at Grand Rapids, Wisconsin, January 8th and 9th, 1889. 1889

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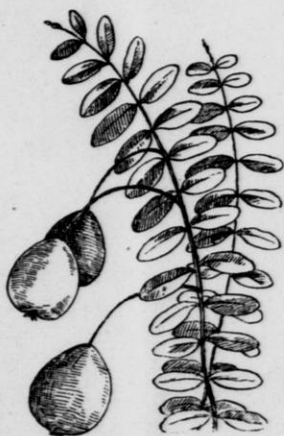
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PROCEEDINGS
—OF THE—
ANNUAL MEETING,
—OF THE—
Wisconsin State



Cranberry Growers' Ass'n

—HELD AT—
Grand Rapids, Wisconsin,
JANUARY 8th and 9th, 1889.

CENTRALIA, WISCONSIN.
ENTERPRISE AND TRIBUNE PRINTING OFFICE.
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PROCEEDINGS OF THE
Wisconsin State Cranberry Growers' Association,

—HELD AT—

GRAND RAPIDS, WIS., JAN. 8 and 9, 1889.

Meeting called to order by Vice President Megow. Minutes of preceding meeting read and approved.

Mr. Megow said that not being aware that the President would be absent he was not prepared to deliver an address, but was confident that the action of the convention in August in establishing price of fruit, although we did not succeed in obtaining prices set, did materially assist in opening and maintaining prices.

Mr. Treat moved that we as an association petition the Legislature to not change the standard of Wisconsin Cranberry Measure. Motion was seconded and carried, and the Secretary was instructed to so inform our Member of Assembly.

Motion made and carried that the chair appoint a committee to look up the matter, and prepare a bill to change or modify the law in regard to drainage as applied to cranberry culture. Chair appointed Messrs. Kruschke, Treat, Nash, Gaynor and Kruger. Matter was discussed by Messrs. Nash, Kruger, Gaynor and Megow, and was referred to the committee

with instructions to report at the morning session.

The committee were also requested to draft a resolution in regard to best method of preventing railroad fires.

Mr. Gaynor:—I would like to hear from experienced growers how to raise cheap berries. I think six dollars per barrel is above the normal price as cranberries stand in relation to other fruit, and I think we must raise cheap to sell cheap in order to sell at all; that the object should be to make berries cheap instead of dear. Would like experience of men who had scalped, etc.

Mr. Kruschke:—I set out vines in grass and in five years had full crop. Have a strip 3x20 rods scalped and ground is not fully covered in 13 years.

Mr. Gaynor:—Does re-planting vines change size or shape of fruit?

Mr. Kruschke:—Vines produce same berries after re-setting as before.

Mr. Kruger:—I find that in cleaning or scalping low islands, unless the ground was loosened up, the vines did not do very well which might account for Mr. Kruschke's poor showing on scalped land. The ground should be thoroughly loosened up, and be careful not to get weed or other seeds in the soil used in sanding, as they would outgrow and retard the vines. I am satisfied the cheapest and best way to destroy sage and feather leaf is to mow and burn the brush, then cut and turn the sod over, putting the vines back into the clean muck. This process leaves the brush buried so low that it kills it and makes a splendid bed for the vines. Vines grow rapidly on land so prepared. Merely lay the vine flat on the surface and stamp them down with hook or foot. Vines should be planted as flat as possible; think they would come up through $\frac{1}{2}$ inch of sand spread over them.

Mr. Nash:—How do you flood without a reservoir?

Ans.:—We have an abundance of surface water during an ordinary season.

Mr. Searles:—How low below the surface would you hold the water to produce berries?

Ans.:—About eight inches.

Mr. Megow:—Have had some experience; my first endeavor was to get reservoir. Too rich soil will produce too rank and woody growth of vine, which from observation I think will not produce profitable crops. Cited several instances where he had seen such vines. About preventing frost, I have several thermometers in different parts of the marsh, and as soon as there is danger I start water from reservoir lying just above the marsh through the small ditches, raising it so as to fill holes and low places but not high enough to touch the fruit, and do not draw it off the next day, or until danger is past.

Mr. Gaynor:—Do you consider it necessary to sand?

Ans.:—I think the peat will produce as much and as fine fruit and last longer.

Mr. Nash:—Have you ever known vines being injured in the fall?

Ans.:—Yes, have seen vines broken off by wind after ice was frozen around the lower part of them. I keep a low flood in spring and put on water as late as safe in the fall.

Mr. Gaynor:—By your thermometer was it colder at or near an island than on the open marsh?

Ans.:—Colder at island if covered with trees or brush.

Mr. Gaynor:—The fact is that trees radiate heat and consequently frost strikes harder near timber.

Mr. Kruschke:—The leaf of the poplar is one of my tests of liability of frost. By taking the leaf in

the palm of my hand I can tell by the chill whether we are likely to have frost that night.

Mr. Gaynor:—I would like to know from Mr. Arpin what success he has in his system of cultivation.

Mr. Arpin:—We have plowed about 100 acres. Dragged enough to level it and from present outlook think that method will make the finest marsh, as the berries grow larger and more uniform in size. The frost does not touch them as soon as on the peat bog. Think grass will be our worst enemy. Think a sand marsh can be run with less water than the natural bog. By using teams we have reduced the cost.

Mr. Kruschke:—I think when vines fully cover the ground so the sun can not strike it that the fruit will be no larger, and that frost will strike there as soon as on a peat bog.

Method of setting vines was discussed by Messrs. Kruschke, Kruger, Treat and others.

Mr. Gaynor:—I am under the impresssion that cranberries will not grow in too cold soil. They need as great a degree of warmth as corn. I am afraid that clean scalped peat will be too cold to give good results.

Discussed by Messrs. Nash and Gaynor.

Mr. Kruger:—I think turning the sod over as I described before is better than to remove the sod, as fermentation induces heat and enriches the soil, producing a finer growth of vines and fruit.

Mr. Kruschke:—To warm soil dig more and deeper ditches.

Meeting then adjourned until 9 A. M., January 9th, 1889.

MORNING SESSION.

Meeting called to order by Vice President Megow. Secretary then read the charter and the copy of the Articles of Incorporation.

Mr. Treat moved that the Articles of Incorporation be our constitution.—Motion prevailed.

Secretary then read a portion of the A. C. G. A. President's address in relation to August over-estimate and its effect on prices.

Discussed by Messrs. Spafford, Gaynor, Nash, Megow and Treat.

Mr. Bennett then presented a paper, as follows:—

MR. PRESIDENT:—At the first or second meeting of this association, some one made the remark that when he started in the business of cranberry growing, some one showed him around and informed him that all that was necessary was to have the right conditions, and he said he had been raising conditions ever since. If he has learned to raise the proper conditions by this time, he has done well. He may raise some berries in a few years more. If we place a fish in a spring of pure water, the fish lives and grows. In that simple element it finds food and air. We place a canary bird in a cage. It will not live on water, but must have canary seed and sand in addition to the water, or something to grind the seed with. The proper conditions are few and very simple, but they must be learned. With ten small figures the world solves all its mathematical problems, and counts its millions, billions and trillions. With twenty-six letters we spell every word in Webster's Unabridged Dictionary, and even the earth and air and all that exists therein contains only sixty-seven or sixty-eight elementary substances. Only a very few of these are necessary to raise cranberries.

Throughout all nature, life and growth, either animal or vegetable, is maintained at the expense of some other life. From the dead the living grow. I have often wondered at the wisdom of the ancient men who first put these ten figures together, and the men whose lips first sounded the a, b, c of our language. They did their work well, and we are here to-day to do another—to discover if possible all the conditions necessary to grow the cranberry success-

fully; how to obtain these conditions as cheaply as possible; how to care for the fruit after it is grown; how to sell it and not get beat out of more than one-half its value; and how not to spend the money foolishly.

First as to conditions. Dr. Stansbury years ago asked me the question: How wet or how near the surface would you keep a marsh to grow cranberries. I replied with the experience I then had, I would regulate the water so that by pressing my foot on the marsh the moisture would wet the soles of my boots. I thought then that I answered the question wisely. I took a trip east last July, and visited the marshes on Cape Cod as far east as Chatham, where the cranberry growing ends. Of the 120 miles from Boston to Provincetown, about 32 miles of the distance showed cranberry vines in sight of the track. I came back to about the centre and began my investigations by getting a rig and a well posted grower and went out to visit the marshes.

A convention of cranberry growers of just Cape Cod producers met July 10th, to organize an association of their own. There were fully 200 present, which gives you some idea of the extent of the business and the interest they take in the subject. Years ago the people on the Cape used to catch fish and make salt for a living, but now the raising of cranberries is the one main industry, and two men, Makepeace and Small, control by far the largest part of it. Mr. Small had the reputation of being the best posted man on the Cape, and surely among 200 growers, many of long experience, some one must know something. I called on Mr. Small and stated the object of my visit to the Cape to be to obtain information regarding the cultivation of the cranberry from their long experience. He replied that it would not be legitimate business for us who have been forty years in this business to give away the secrets of our success to parties who are likely to become competitors in the market with us, and he related the case of the original discoverer of the early black cranberry, and showed how he might have cleared \$100,000 instead of \$5,000 if he had only known enough to have kept his secret until he was able to control the market on them instead of letting his neighbors have them to become competitors both in the sale of vines and fruit. I saw the point, and it placed me in an awkward position. I had prepared

many direct questions which I did not now feel at liberty to ask in a direct way. I told him about how we were doing in Wisconsin, what mistakes many had made, and what I had already learned from others on the Cape as to their method of culture, &c., and that I had been referred to him as the best posted man on the Cape and every way a reliable gentleman. He saw my anxiety to receive the finishing touches of my education from him, and he soon became himself and gave me a history of his experience and observations, and invited me to go with him to see his marshes in his carriage. From him I learned that his father Sabin Small, who is now dead, sanded and planted over 35 years ago the first marsh ever planted in sand on the Cape. He sanded about four inches deep, and Mr. Small, his son, now about 45 years old, still sands about four inches, although many others sand six and seven inches deep. Mr. Small said he knew a piece of marsh that was sanded only two inches deep 35 years ago, and had borne a good paying crop for 31 years, and had prospects for a good crop this year.

You will notice in the crop reports of the east that their crops vary but little from year to year, while Wisconsin crops vary greatly; but we must take into consideration the difference in location as to moisture, temperature, &c. Cape Cod is a narrow strip of land from four to ten miles wide, with the Atlantic ocean lashing its shore on the north, and Nantucket sound washing it on the south, with the tides coming and going every 25 hours, rolling the waters of the briny deep far up on the shore from three to six feet deep. This causes a spray to fill the air, and if there is wind from the north or south, the moist laden air is carried clear across the Cape. The air is always moist. I saw small patches of corn, potatoes and oats, but no other crops. Apples, peaches, pears and plums are grown to some extent, but do not do well and are not raised for profit, on account of excessive moisture which causes moss to grow on the limbs and body of the trees. I saw willow trees which were in front of the hotel at Chatham all covered, limb and body, with moss. They scrape the moss off of them to have them do well.

This moist air makes it seem cold in winter, and when the thermometer gets within ten degrees of zero, no man will work out doors. Last winter it got two degrees below zero, and they felt the cold equal

to a Minnesota blizzard.

The soil is a coarse sand, and the water is all soft. Much of the land on the Cape is high and dry, and the marshes are small patches of muck often only a few acres or square rods. I saw some lately planted less than the size of this room. But Mr. Small and Mr. Makepeace, the cranberry kings, have some much larger. Mr. Small had one marsh of 25 acres which in the fall of 1887 turned him an even 4,000 bbls., or an average of 1 bbl., (3 bushel) to the square rod. He said that on some of his small marshes, under favorable circumstances, he had picked more than double that amount—but you must bear in mind that their marshes are kept perfectly clean. Mr. Small said that on two forties of company marsh, of which he had charge, I could not pick two bushels of grass and weeds on the 80 acres, and that I might pull it by the roots along the ditches and outskirts, so every square inch is utilized by the vine. The vines on these marshes do not average only about six inches high, and it would seem almost impossible that they could yield so much, but the size of their berry has a good deal to do with it. They plant only the best varieties. They have never made a success of raising from the seed, but the wild marshes contained a variety, and by judicious selection and cultivation they have greatly increased the size of the berry. The Early Black takes the lead for an early berry, but it is not a large berry nor a good keeper, and there are no extra large berries that are good keepers.

They use a broad-axe to cut the turf, and where the marsh is level and has only grass and small weeds on it, they turn it over and sand from four to seven inches deep, making it as level as possible. This turning over process has several advantages, the principal being that it forms a mat which prevents the sand from settling into the muck and saves putting on so much sand. They used to remove it, but have learned better. If one side of the marsh is higher than the other, they remove the higher portion and then gather sea-weed or a sort of coarse hay and spread over the surface so as to prevent the sand sinking into the muck. The muck there is much firmer than in Wisconsin. After the surface is scalped and removed, they lay down a board nine inches wide, and a gang of men run over it all day long wheeling sand, but we must remember that

their ditches are at least 18 inches deep and plenty of them.

I asked Mr. Small how wet he would keep the marsh, or how near the surface he would hold the water. He smiled at my ignorance and replied:—"Whenever I see the vines are suffering for water, I put more on if I can." These old pioneers have watched their vines so they can tell when they need water as well as you can tell when your corn, grass or potatoes need more rain, and the idea of keeping water at a uniform depth had passed away with the wild marsh and was forgotten. The last acre patch on the Cape has now been planted. Much of it has been done in the last two years, and will not come into bearing for two or three years more. Not one in twenty have any means of flooding except by rain from the clouds. They all have outlet ditches fully 18 inches deep. This is necessary to prevent being drowned out by excessive rain; also to drain the marsh deep so that air can penetrate the ground about the roots of the plant and prepare food for it. Within six or eight inches of the surface of the earth (according to the nature of the soil) nature prepares the food for nearly all the products that grow upon the surface of the earth, and they all take their meals in this kitchen with walls only six to eight inches high. This the warmth of the sun, the air of heaven, and water must penetrate, and the gases which are the smoke of this kitchen fire, must escape—otherwise all must starve. If we flood this kitchen with water, we exclude the air and the chemical changes which were preparing the plant food stop at once, and large forests and every living green thing starves to death. We see the effect of this where mill dams have flooded around the roots of forest trees, &c. Again, if we lay a board only a foot wide on the surface of the earth, all vegetation perishes beneath it. You might as well put a board over the kitchen chimney. This space of six or eight inches nature takes great pains to keep porous. Every spear of grass coming up from below opens a trap door; each root opens a channel deeper, and in dying, leaves free space for others. Sometimes the rains fill the earth below, and water forces its way from below to the surface, thus clearing out passages which may have been closed by a previous downward movement. The experience of forty years on Cape Cod in cultivating the cranberry has settled a few funda-

mental principles—the a, b, c of the business.

First. Deep drainage, not less than 18 inches.

Second. A flat surface. This is on account of scarcity of water.

Third. Sand free from all seeds, four to seven inches deep.

Fourth. Plant 18 inches apart each way, three plants in a hill, and cultivate and hoe thoroughly the first and second year; not to let a single weed or grass go to seed. The third year pull every stray weed. In putting on sand, they remove the surface soil so as to not get any seeds of grass or weeds. In planting, they push the vine all below the surface except an inch or two. They say they do not expect the plant to root down there, but the greater part of the vine being below the surface, reaches moisture and keeps the upper part alive until it can root, while a small part only is exposed to the drying influence of the sun. The top of the vine from which the runners most naturally start, is by this process brought near to the surface, and they throw out runners more freely, and in three or four years cover the entire ground with all *new growth*, well rooted, no old woody vines through which it is hard to draw the necessary plant food. I examined a marsh of $2\frac{1}{2}$ acres on the 10th of July, on which the planting was finished on the 3rd of last July. It belonged to the merchant of Harwich port. It was only one-half mile from the village, and supposed to be done according to the best light of this age. This piece has a small stream passing along the outside, with a sluice to dam it and another sluice to admit the water on the marsh, with inside and cross ditches 18 inches deep, with outlet ditch returning the water to the same stream below. This had been made perfectly level and sanded about six inches deep. Water was held in the ditches about two inches deep. I dug down through the sand to the muck and found it quite moist. It was planted 18 inches apart each way, three vines in a hill, and tops about two inches above the surface.

Ordinary marsh without flooding facilities is considered worth \$1,000 per acre as soon as planted. This piece is probably cheap at \$5,000 on account of water facilities.

Marshes have been cleared and vines planted in the muck, but in that country they grew too much to vines, grew small berries and did not ripen.

While vines planted on the sand had ripened their berries these were all green. Some of their finest marshes are near the sea shore, and all beach sand, not a particle of muck, and so near the ocean that the finer portion of the spray settles down on them. Salt water will not do to flood with.

They let the water off early, and watch close for the first appearance of the vine worm, which usually makes its appearance about June 1st. Then such as have water let it on and keep it on until they have made thorough work of this first crop of worms. Others who cannot flood, steep tobacco stems about 24 hours, and then sprinkle the vines with it. Last spring it rained so much during their first appearance that the tobacco had but little effect, and the second crop, which there appears from the 1st to the 15th of July, done considerable damage. Mr. Small said he would flood in July if necessary to destroy the worms; better to lose the crop than the vines. But he had found that when the first crop of worms was thoroughly killed, the second crop was very small.

I did not see a store house, nor a cranberry box, nor rake, nor fanning mill in that whole country. I am aware that some have them, but they are not so common as with us. They let them color up and ripen on the vines, then wait until the dew is off in the morning. They pick all by hand, each picker bringing his six quart pail, and as fast as they fill the pail it is emptied into the barrel right behind them on the marsh, and is headed up, and as fast as a car-load is ready are shipped to market. There is no cleaning, and no sorting, and no need of it, as it is all clean work, no grass or weeds. This is a big saving.

They have early frosts there the same as we do. They had them quite heavy this fall on the nights of Sept. 6th and 7th. Usually the frost comes later, and either takes only a very few berries or takes all there is left, so there is no sorting. Mr. Small's loss was estimated by his neighbors one year, by frost, at 10,000 barrels. The berries are mostly all sold before picking to parties who come there and look at them on the vines.

There is one thing more that has been settled but not practiced except on late planted marshes. That is that all dams and ditches should have a face slanting at an angle of exactly 45 degrees. If you place

a board in a running stream with a view to dam the stream, you will very soon find that it is more firmly held down at an angle of 45 degrees than at any other, and sand dams built on this exact angle do not wash out or run down by rains as much as at any other angle.

I saw nothing in the line of sluices that was in advance of our own, and as I have something better to suggest, I will pass it for the present.

The great want of this country is water, water, water. Give me water, sand and vines, and I can grow cranberries in these streets or on the house-tops. To obtain this water, some of us are constructing large reservoirs, and trying to pond water on a skimmer, with holes below, and sun and wind licking it up from the surface, and at the same time are letting all the water of the early spring pass off through our ditches without a single effort to hold it back in the vast body of the wild marshes. Until there is some general effort in this direction, our marshes will grow dryer and dryer.

Nearly all the marshes in this country have a natural drainage, but very few are a dead level. Now suppose we have three or four forties one above the other. We select the lower one to grow berries on, and the upper ones all for reservoir. Suppose we build a big dam around the second forty and put in our sluices. In a dry time, we find the reservoir empty. Suppose we run a ditch through this reservoir, starting it 18 inches deep at the lower side, and continuing deeper and deeper as we proceed, keeping it down to the *water level* until we reach the upper edge of our last forty. The ditch at the upper end will then be in most cases three or four to eight feet deep. This gives us a covered reservoir, and gives us a more generous and lasting supply of water, but we must be very careful to put in frequent sluices, and only draw on this when surface water has failed. Hold the water back everywhere all that it is possible. If we have no reservoir and no chance to make one, the expense which it would cost to make one and keep it in repair could well be invested in a steam pump or wind-mill, with tank elevated for sprinkling purposes. This tank need not be the expensive, round iron hooped ones such as railroads build, but can be cheaply built of common plank, and only three or four feet deep, but larger on the bottom. Then with this for a starter,

and some covered cisterns out in the marsh, we can make this tank draw the water from the cisterns. This adds greatly to the amount of water, and also gives you warmer water than surface water, to use in case of frost. I will show you how to use the hose for this purpose. Simply run a branch hose into the cistern and connect it with the main hose, using proper judgment in making the connection. Much water and many berries can be saved from frost by keeping the ditches just full of water with what is called slash boards at short intervals, so as to hold the water fully up to the surface, but not an inch above the surface unless you can cover the vines entirely, or nearly so. You have often noticed, no doubt, what is sometimes called ice honey-combed. This is the effect of escaping heat from the ground below. If there is an inch of water, this heat would remain below, except the very little imparted to the water in contact with the earth. You get the best effect to only have it *even* with the surface.

Last fall, one frosty morning, I noticed a log projecting over a small stream of water, which appeared to be as heavily frosted over the water as on the land, though it was less than a foot above the stream which had a current of three or four miles an hour.

A frost which comes in the night and passes off with a cloudy morning does no harm; or, if a change of temperature removes the frost before the sun shines in the morning, all is well. Now, if we can sprinkle before the sun is up, we accomplish the same result. Suppose the outfit costs \$100; the interest on the money would be \$6, repairs \$4, making \$10 per year. How many berries could we save with one, and how many barrels increase of size could we add to our crop by its frequent use, besides ridding the vines of millers, worms, &c.

About sluices, a very important item. For several years we have had no winters calculated to throw up our sluices, and almost anything has done, but will not always do. I have seen where board spiling was driven down six to eight feet about ten years ago. It was thrown completely out in two winters. Now such winters may come again, and in building sluices we should be prepared for them. Now if the top end of these boards had been driven below the surface, or a dam built over their ends, the frost would never have disturbed them. I will give you my idea of a sluice calculated to stop water, stop

muskrats, and catch them too, and one that the frost will not throw out, or water dig out. The sluice should be made of two inch plank at least 12 feet long, and the bottom of the sluice level, but fully one foot below the bottom of a twenty inch ditch. Beneath the bottom of the sluice, crossing it at right angles in the center, place a log at least one foot in diameter and let it project four feet on each side of the sluice. Now pack in well about it, and drive piling or boards in front of it the entire length at an angle of 45 degrees. Drive them to the sand. Make them even with the top of the log. This constitutes the main support of the sluice. Nail the centre of the plank to the log. The ends of the sluice need only cross planks the width of the sluice for support. Let the sides of the sluice be built so as to come even with the sides of the ditch. Then above the log on the outside of the sluice, in front of the log nail upright boards coming within one foot of the top of the dam, and fill in back and front. Now from the centre of the sluice on the side select a point as high as you wish to hold water, and from that point draw a line at an angle of 45 degrees down to the bottom of the sluice, on the upper end of the sluice, and nail on strips along this line to receive sluice boards. Now cover the top of the dam on the ends and each side for at least one foot on the sides and four feet on each end, leaving the centre open to regulate the sluice boards. This weighs down the sluice; it covers the sides and ends, connects the cover and dam so that it all freezes and thaws together, and prevents drying up of the sluice planks. I once had a muskrat gnaw a knot-hole in the sluice boards until he could pass through. Now my idea for a muskrat trap is this: In the centre of the bottom sluice board make a hole big enough to admit the muskrat; take some large knitting needles, cut them in two in the middle, and drive one end in the board around the hole in such shape that the muskrat would have to spring the other ends apart to get through, so when once through he could not get back. Now fix a box on the upper side, fastening it to the bottom of the sluice plank with a hinge, and you have a trap always ready to catch them and drown them as soon as caught, for the muskrat must have air to breathe.

The muskrat always digs his hole through the

dam from below, and when he comes to the sluice boards he will examine every part to find a hole, and the water boiling up from below soon tells him where it is, and in he will go. A few vines might be fastened in the hole to further deceive him and hide the needles.

In the summer of 1887 I went over the marsh when the berries were just forming, and of the thousands of little berries I examined, many only about the size of a pin-head, I did not find one but what seemed fresh and healthy. There was plenty of water, and I never saw a better prospect for a big crop. I went away and returned again in just one week, and to my surprise I found millions of the little berries no larger than when I left, but now dried on the vines. I examined all around to see if I could discover any cause in the condition of the marsh which I could have changed so as to have prevented all this destruction, but I could see no difference. The driest and the wettest portions had all suffered alike as far as I could see, the only difference being on part of the marsh where the berries were larger at the time I first examined them, and some which were large in other places. Here and there a berry, not one in fifty of the rest, was left. The week had been excessively hot and I could only account for it by supposing that there had been a light shower followed by a scalding hot sun which had cooked the berry, as with most of them there seemed to remain a little husk attached to the small berry which would have held moisture enough to have boiled the infant berry in, but whether boiled or baked I cannot say for sure, but I am satisfied that our greatest loss every year has been during the infant life of the cranberry. It is estimated that 25 per cent. of the human family perish in infancy before seven years old; 50 per cent. before 19. Of our fruit of all kinds much of it perishes in its infancy, and we scarcely ever think of trying to prevent it, but where we are supposed to have control of the elements to a certain extent, we will do well to study closely in the future the cause of this immense loss, and see if there is no remedy. We always have blossoms enough for a crop if we can only save them. The only course I can see now is to get the berries started as early as possible so as to have them past this infant stage before the heated season comes. This course necessitates keeping a full supply of

water in reserve to protect your marsh from frost. On this point a trial of only so much of the marsh as you can handle with certainty would be advisable, and let the result be entered up for our mutual benefit.

I now wish to say a few words about picking and storage. If you were to visit Chicago at this time of year, and pass along the entire length of South Water street, as I have done for the last five or six years, and push your way into the commission houses and examine the stock, not the sample lots outside, you would see the importance of proper handling. On the 20th of December, I bought a barrel of Cape Cod cranberries on the market for \$1.00. Close by the side of these, in the same store room, receiving the same treatment and coming from the same section, were others for which they asked \$13.00 per barrel. The commission man was an old Cape Cod man and had pulled weeds on the bogs on the Cape when a small boy. He said, "these berries," opening a barrel of nice berries all sound and bright—"these berries I buy out and out, and pay for them, because I know the man who puts them up and know how it is done. The others here I would not buy at any price." They are sent here on commission, and he was selling them at \$1.00 per barrel for single barrels, and 75 cts. per barrel in ten barrel lots or more. He said the freight on them was 65 cts. per barrel, so you can figure on the profits of the owner. This is only a sample of many others. So long as the cranberry growers will not learn to properly cure and sort their berries, so long either they or the commission men must suffer heavy losses, and the presence of so much *slush* on the market together with the early picked unripe berries which must be sold keeps the market depressed for a long time. If all the berries now on the market were in good condition, I have no doubt they would be bringing \$10.00 per barrel.

I wrote the Cape Cod grower so as to learn if possible the conditions under which these berries were put up, and will give you his reply:—

"HARWICH PORT, MASS., Dec. 26th, 1888.

"A. C. BENNETT, Chicago, Ill.

"*Dear Sir:*—Your favor of 21st at hand; contents "noted. In reply would say that the berries you saw "at A. Ryder's, if they were from my bog, would

"have my brand on them. The reason that the Cape berries were so bad this season was that we had constant rains and frosts during picking time, so that all Early Black berries, excepting those picked the 1st of September, were over-ripe before they were picked. Our practice usually is to get all the Early Black picked by the 20th of Sept. This season it was the 9th of November when we finished picking them. In September we had not more than 70 hours during the whole month that we could work, and that is the reason that there was so much bad fruit. I left on the vines 800 barrels of Early Blacks, as I knew they would not be worth the cost of picking. I averaged about \$6.00 per barrel net at station, which was good for this year. Hoping we shall all do better next year, I remain, with the compliments of the season, Yours Truly,

— — — — —

I will say in addition that this party has no store-house, and picks his berries and puts them directly into the barrel, and they go to market in that shape. Twenty years ago, in New Jersey, they used to use their cellars for store-rooms and I presume they do yet, and if they are cool they are much better than our ordinary store houses. There are certain elements in nature which nature uses to produce decomposition. Principal among these is heat, and second, light. It may seem strange that light should be a powerful agent of destruction, yet if we look at photographs which are now taken instantaneously and see how reflected light from your face has changed the material on the negative in the tenth part of a second, and you have some idea of the power of light. The same workmen that build up the beautiful works of nature all unite again to destroy it. Blot out the light of the sun and if you could heat the surface of the globe with a furnace, yet all animal and vegetable life would perish. It builds up and it destroys with equal force. If the berries are dry and well colored when they come from the marsh, they should be sorted so as to leave no soft berries in contact with sound ones. If they are not dry, they should be dried as quickly as possible until you are *certain* there is not a *particle* of water left on them, and no moisture except the pure juice of the sound berry. Then barrel or box without pressure. Pressure generates heat. Place them in a store-room where you can keep them from the light, and in

which you can maintain a uniformly cool temperature. In Chicago, 200 miles south of here, the store-rooms are kept cool by opening the doors and windows during cold nights, whenever the temperature outside of the room is colder than the air inside. Then this body of cold air is closed in tightly until the air outside is again colder. It is not necessary to keep them near the freezing point. It is much better to maintain an even, cool temperature. Alternate heat and cold is nature's rapid rotting machine, and light is its engineer.

The practice of picking patches of half-frozen berries and allowing them to be set away for weeks in an open shed to dry, exposed to light and the ever changing temperature, is too bad. Better leave these half-frozen patches on the vines where the sound berries are not so closely in contact with the soft ones, and gather in the sound ones first, and take good care of them. Then if a second or third frost should occur, the berries which were frozen before on these patches, having no vitality, a second freeze finishes them, and they are more readily separated from the sound berries, and the time can then be better taken to do it.

SELLING OF BERRIES.—Berries never look any better or brighter than when freshly picked, if in proper condition, and the *producer* has no business to be a speculator. He should sell while there is a market, and get his pay. Let the speculator be a speculator and take his chances. The practice of consigning berries to commission houses and getting advances on them, is ruinous and unsatisfactory. In nine cases out of ten, it places you and the berries both in the clutches of the other man. He has you on your back and will dictate such terms as are most profitable to himself. It is better and cheaper to properly care for your berries in this cool northern climate than to send them into a hot city and pay some one else to care for them. The members of this convention should expose every commission man who has not done a fair, square thing, and should band themselves as one man to insist on selling for cash. This is the only way not to be beat out of over one-half the value of your crop. It might do to send different commission men small lots as samples, say five or ten barrels, and state that you have a certain amount like sample sent which are for sale for cash only, and say to them:—"Please sell these

soon as you can, and make returns. Also give me offer on the balance of the crop. Should I dispose of the berries, I will advise you. Until you receive such advice, you can be sure I have them yet for sale." Even if your first offer is not accepted, this will generally give you prompt returns at fair prices, and places your crop on the general market instead of in the hands of one man.

How not to spend the money foolishly:—Pay your debts and taxes. It is useless to tell you what to do with the rest of it until I know there is any rest left.

A. C. BENNETT, Appleton, Wis.

Mr. Gaynor moved that Mr. Bennett's paper be printed as part of proceedings of the meeting. Motion was carried.

Mr. Bennett then presented a drawing showing plan of watering small tracts by means of windmill, tank and cisterns, making the water from the tank draw an equal or greater amount from the cisterns. Also, a drawing of marsh and reservoir showing how to drain the reservoir below the surface and use the water on the marsh.

Mr. Treat:—That plan would work well especially where the reservoir approached high land.

Mr. Gaynor:—The plan is a good one, where a party is located so he can use it, the water being warmer drawn from below the surface. The water above being exposed to frost and evaporation and having the temperature reduced to nearly the freezing point, heat and moisture being the two things necessary to grow the vine or any other plant.

Messrs. Spafford, Kruschke, Gaynor, Megow and others discussed the reservoir problem, most of the members thinking the plan of Mr. Bennet's a feasible one in favorable localities.

Method of destroying miller or fruit worm was discussed.

Mr. Kruger:—I use lamps set 8 inches above shallow pan. Fill pan part full of water with teaspoon-

ful of kerosene on the water, which prevents the miller crawling out after falling into the pan set on dams and ditch banks. Light at dusk, and use from the 10th of May as long as the lamps catch any millers. By the lamps alone I have succeeded in keeping my bog free or nearly so of the fruit worm.

Mr. Kruschke.—I used the lamps at least ten years ago, but the vine or fire worm hatch out very early and I think the lamps should be put out before the 10th of May, in fact as soon as the evenings were warm enough for the miller to fly.

Mr. Scott.—Bogs that are well flooded during winter are not troubled with the vine or fruit worm.

Mr. Nash.—Perhaps marshes that are well flooded in winter and have plenty of water in summer produced so much larger crops that the fact is lost sight of that the worm worked equally as much there as on the dry marshes.

Mr. Treat.—Neither kind of worms bother me to any extent on portions of marsh which are well flooded in winter.

The chairman of the committee (*Mr. Kruschke*,) then presented the following resolution:—

RESOLVED, By the Wisconsin State Cranberry Growers Association in convention assembled that the attention of the several railway corporations whose roads pass through cranberry districts be called to the necessity of using greater precautions to prevent the spread of fire from their engines during hot, dry weather. This precaution will, in our opinion, be greatly promoted by using only coal burners on day trains; by maintaining a continuous ditch on the outside line of the right of way on either side, and by cleaning off and burning when practicable within such ditches all grass, rotten wood, and other combustible material; and by having, during very hazardous times, a patrol properly

equipped after each day train.

That the Secretary of this association be instructed to forward a copy of these resolutions to the superintendents of the railway companies whose lines pass through cranberry districts.

It is also recommended that every member report to the proper official, each fire set in his vicinity, giving number of train, engine and name of engineer, when practicable.

Committee further reported that the law in regard to drainage and irrigation needed to benefit cranberry growers, would necessarily change part of the fundamental principles of laws pertaining to said subjects and would require more time and careful consideration than they could give, requested that a committee be appointed to study our needs and draft a bill and report at the next annual meeting.

Report was accepted and committee discharged.

On motion the president appointed T. E. Nash, J. A. Gaynor and C. J. Kruger to act as such committee.

On motion committee composed of H. O. Kruschke, R. C. Treat and Andrew Searls was appointed to investigate the vine and fruit worm and report at next annual meeting.

Adjourned one hour.

AFTERNOON SESSION.

Meeting called to order by Vice President Megow. The report of the treasurer was read showing balance on hand of \$8.56. Report was accepted.

After discussion the secretary was instructed to address inquiry to individual growers instead of corresponding secretaries, for statistics of August estimates.

The election of officers resulted in the following persons being elected for the ensuing year:—

President—T. E. Nash, Centralia, Wis.

Vice President—W. L. Megow, Deuster, Wis.

Secretary and Treasurer—J. H. Treat, Meadow Valley, Wis.

On motion the corresponding secretaries retain their offices another year.

The statistics of amount of fruit marketed were then read, showing a total for Wisconsin of 60,072 barrels.

Mr. Gaynor:—Mr. Bennett, do they use any fertilizer in the east?

Mr. Bennett:—They use fertilizers on young vines to some extent.

Mr. Nash:—I think muck is rich enough without.

Mr. Bennett:—I made note while east that guano served to produce too rank, woody growth of vines.

Mr. Gaynor:—Is lime good?

No grower had tried lime.

Mr. Megow:—I have seen marshes where they used water that was hard and marshes seemed to deteriorate, am positive that was the cause.

A talk about using sand on the marshes in this locality was indulged in, but owing to the recentness of experiment only theories were presented.

The question of gathering was introduced.

Mr. Nash:—I think in certain cases raking is a benefit.

Mr. Treat:—I think marsh will bear longer to rake them than to pick by hand as it serves to keep the vines from getting too thick.

Several other members also concurred in the above opinions.

A general discussion regarding the price of berries in relation to other fruit; keeping fruit sound after gathering; the best condition of warehouses for storing and curing fruit, in which Mr. Gaynor explained the decomposing effect of light, showing warehouses were best dark. Time of picking was the next discussion.

Mr. Bennett:—I think that berries are ripe enough to gather when the seeds turn brown.

Mr. Gaynor:—Most fruit has better keeping qualities to be gathered just before it is entirely ripe; but too early picking and marketing is, in the end, detrimental to all growers.

Mr. Treat:—My experience shows that the moderately early berry was the best keeper, and have realized better prices by picking and selling part of the crop early.

The subject of marketing was discussed, and Mr. Nash spoke as follows:—

MR. PRESIDENT AND GENTLEMEN OF THE CONVENTION.—We have now reached what seems to me to be the most vital subject connected with the present and future prosperity of cranberry culture in the northwest: for, say or do what we may, unless the berry can be gathered and sold at a profit people will not embark in or continue cranberry growing. The statistics gathered for and presented to the meeting by our secretary shows what I have long believed, that Wood and Juneau counties in this state were growing between 65 and 75 per cent. of all the berries raised in this country outside of Cape Cod and New Jersey. This fact should be borne carefully in mind in considering the plan which I shall propose for gathering and marketing the crop hereafter. But before taking up that subject let us

for a moment examine the methods heretofore and at present in vogue.

We all know that but two or three commission houses in Chicago, and, so far as I know, not any in other western cities make a specialty of cranberries. To these might be added two or three wholesale grocery houses. Now our illustration of the methods pursued by these houses will show that their interests are not the interests of the cranberry growers. At the August meeting of this association it was stated upon the authority of the association that with the prospects of a light crop, estimated at 5400 barrels, it was thought good fruit would bring from \$7.50 to \$8.00 per barrel. About ten days after this meeting I tried to find market for my crop and commenced by asking the price suggested at the meeting. Soon I began to receive replies all of the same tenor: "Messrs. ———, of Chicago, have quoted me Wisconsin Bell and Cherry berries delivered, for \$6.25, (or \$6.50, according to the rate of freight.)" Happening to see a representative or member of this firm, I asked him how it was he quoted berries so low before the berries were gathered, or the volume of the crop known? He said: "We did not put out quotations until we learned that our competitors, Messrs. ———, had done so." "Yes, but you say you have not yet contracted any berries, how do you know you can get any at such a price?" "Oh don't you fret, we will make most of you come to those figures." And so they did. Wherever we went we found the price had been placed on our crop without our knowledge or consent, and, except for the fear of revolt, the parties I have in mind might just as well have fixed the price of our product at \$5.00 or \$3.00 per barrel, as the arbitrary figure they did name. I made diligent enquiry and ascertained that though no contract had been made, many growers had bargained away their berries, (the price to be fixed later on,) receiving by this arrangement advance money with which to pay for picking their crop. The lack of ready funds by some growers is the club the commission men use to make "most of us" come to the figures they name in their circulars sent dealers throughout the country.

I think this preliminary statement sufficient to show that we are at present entirely at the mercy of

a few commission houses whose interests are not so closely identified with the Wisconsin cranberry grower, but that the latter may again, as he has before, find his berries thrown entirely over-board to seek a market as best they may, when the commission houses think they can make more money by handling the Cape Cod or New Jersey crop exclusively. What method should we adopt to protect our interests against such a contingency?

In my opinion we have a ready and effective remedy if we will but have the courage to organize and adopt it. I would propose, first, that we organize The Cranberry Growers' Bank which need not be capitalized for over \$25,000 or \$30,000. Have this organized under the laws of the state, and give every cranberry grower in the state an opportunity for subscribing to the capital stock. Form at the same time the Cranberry Growers' Commission Company with a capital of \$4,000 to \$5,000. When a grower needed advances for picking his crop he would know he could get them from a bank in which he was himself a stockholder, and when his berries were sold by the Cranberry Commission Growers' house he would know that only the 5 per cent. would be deducted from the proceeds, and that whatever profit accrued from the handling of berries, he, as a partner in the business, would also share. The statistics before quoted show that the crop of this state amounts to over 60,000 barrels per year. If this Bank and Commission House handled but the half of this amount or 30,000 barrels, at an average of 30 cents per barrel commission, the amount thus earned would be \$9,000, which in my opinion would more than pay interest, salary and other expenses of the Bank and Commission House from the start, besides assuring to the grower a wide and impartial advertisement of his fruit, an intelligent and well organized effort to extend the demand for his berries, and above all an assurance that he would be able to secure funds with which to gather his berries without thereby forfeiting his right to obtain the highest market price for them. Many other advantages will suggest themselves to members, some of which might be enumerated by me, but as I have already taken more time than I intended or could fairly ask the meeting to grant, I will not mention them but leave the subject with you.

Mr. Arpin:—I favor the plan of growers starting a Commission House and sustaining the quality of the fruit.

Mr. Kruschke:—I am favorable to some such plan, think it would be best to appoint a committee and have them arrange a plan and report at the August meeting.

Mr. Nash:—I move that a committee be appointed to perfect and outline a plan and prepare a circular setting forth their views, and have the secretary mail a copy to every member to get their idea on the matter.

Motion prevailed and Chair appointed T. E. Nash, C. J. Kruger, S. A. Spafford, R. C. Treat and G. H. Kruschke to act as such committee.

Meeting adjourned.

J. H. TREAT, Secretary.

NOTE.—Any member wishing statistics or extra copies of this report can get them by addressing the secretary.

The next annual meeting will be held at Grand Rapids, on the 2nd Tuesday and Wednesday in January, 1890. The place of holding the August convention was left to the executive committee, and a notice will be given to each member in due season.

