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## **Wisconsin State Cranberry Growers' Association. Thirty-second annual meeting, Grand Rapids, Wisconsin, January 14, 1919. Thirty-first summer meeting, pavilion, near Nekoosa, Wisconsin, August 13, 1918...**

Wisconsin State Cranberry Growers Association  
[s.l.]: [s.n.], 1918/1919

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**Wisconsin State  
Cranberry Growers' Association**

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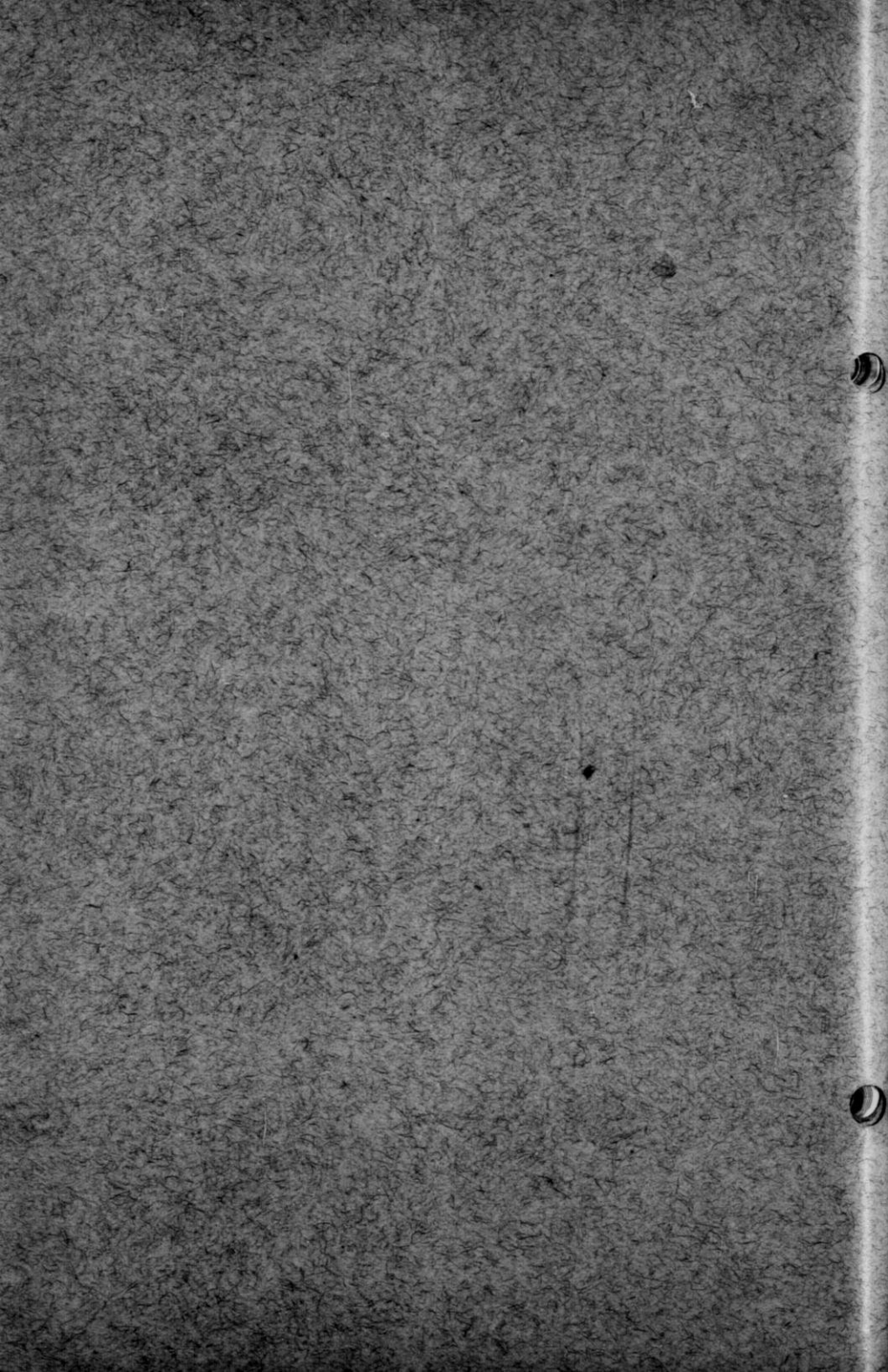
**THIRTY-SECOND ANNUAL MEETING**

**Grand Rapids, Wisconsin  
January 14, 1919**



**THIRTY-FIRST SUMMER MEETING**

**Pavilion, Near Nekoosa, Wisconsin  
August 13, 1918**



**Wisconsin State  
Cranberry Growers' Association**

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**THIRTY-SECOND ANNUAL MEETING**

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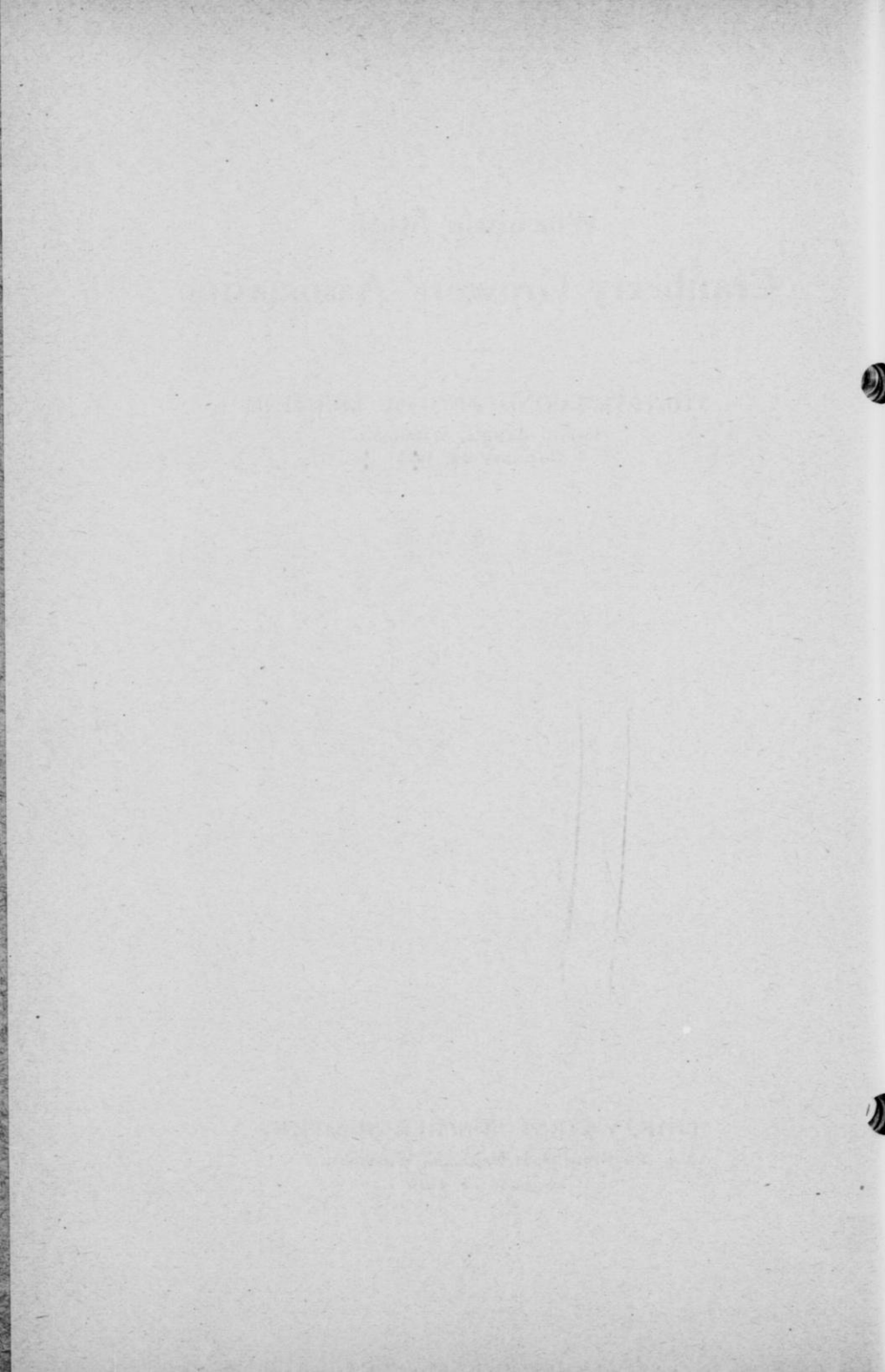
**January 14, 1919**



**THIRTY-FIRST SUMMER MEETING**

**Pavilion, Near Nekoosa, Wisconsin**

**August 13, 1918**



LETTER OF TRANSMITTAL.

EMANUEL L. PHILIPP,

*Governor of Wisconsin.*

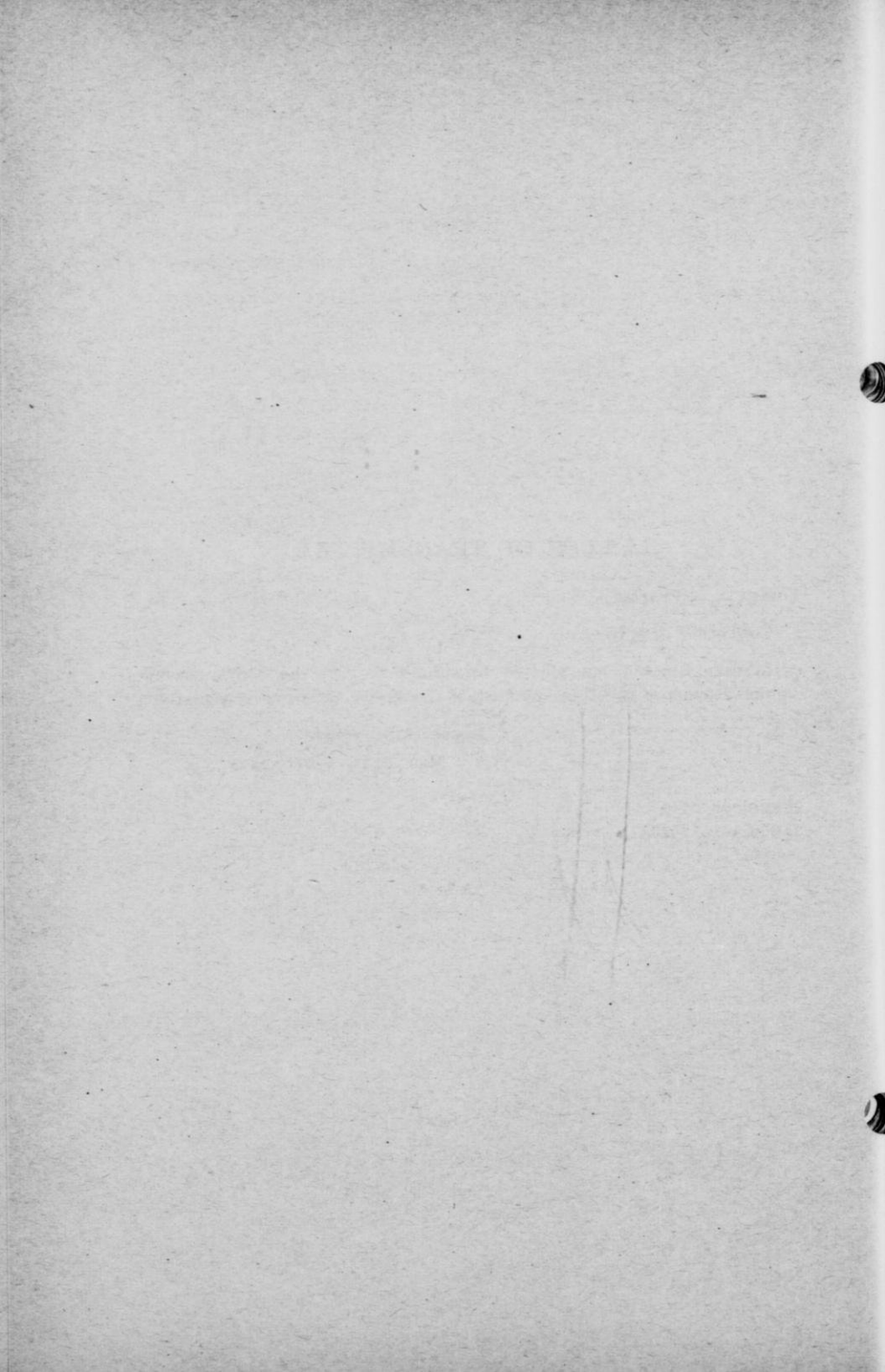
HONORED SIR: I am pleased to submit to you the Thirty-second Annual Report of the Wisconsin State Cranberry Growers' Association.

Respectfully yours,

MRS. S. N. WHITTLESEY,

*Secretary.*

Cranmoor, Wis.  
January 14, 1919.



# THIRTY-SECOND ANNUAL REPORT

OF THE

Wisconsin State Cranberry Growers' Association.  
Grand Rapids, Wis., Jan. 14, 1919.

## PRESIDENT'S ADDRESS.

ANDREW SEARLS

Ladies and Gentlemen: I want to give you this morning some views of mine on the subject of blight.

I have looked upon the question of cranberry blight in a little different way than that usually looked upon by what the growers term blight.

I look upon this trouble as rather a manifestation of weakness, or of injury which may have been received a long time before the bloom has taken place. The vine may have been weakened by overflowing, which may be done by being put under water too early in the fall, or continued too late in the spring—or the bloom on very young berries injured by cold nights.

Blight may be caused by severe storms at a critical period in the bloom; also blight may be caused by drying winds when the root system is not well protected.

I believe we should not expect every blossom to mature fruit; most plants producing a greater amount of bloom than they can possibly carry to maturity.

I believe the wise grower will look well to provide the best possible conditions for his plants, that they may be strong, healthy and well fed. In order to do this, we plant on well sanded ground. Where this has not been done at the time of planting, we give the plants several applications of sand of say one-half inch at a time, or until we have a bed on which our cranberry plants can be assured of congenial living quarters. The sand will greatly help in maintaining a proper temperature on cool nights; it also protects the root system from the drying winds, and greatly aiding in maintaining a proper amount of moisture for the plants.



## MINUTES OF THE 32ND ANNUAL MEETING

President Searls called the meeting to order at 10 a. m. and addressed the members, giving his views on the subject of blight—from which some growers are sufferers.

The minutes of the thirty-first summer convention were read and approved. The treasurer's annual report was read, approved, and ordered on file as was also the secretary's financial report.

Miss Anna Bamberg reported the state fair exhibit at Milwaukee in September, 1918, as being ready on time and attracted much attention. Feels the money expended for same was a good investment, but to make it pay its best should have many more exhibitors with correspondingly more cranberries.

Owing to the inability of our delegate, Mr. E. C. Bennett, to attend the Horticultural meeting at Madison, January 8, 9 and 10, Mr. C. M. Secker kindly consented to serve and very ably represented our association. Mr. Secker's suggestions for the future should receive consideration.

All the old officers were reelected. The president by ballot, the secretary being instructed to cast the ballot for the remaining officers.

Resolutions of sympathy and regret over the death of our esteemed member, Mr. Russell Case, were submitted and adopted.

All appreciated the very interesting and instructive talk of Dr. Fracker of Madison. Before adjournment it was decided by almost unanimous vote to hold the next annual meeting at Madison in connection with the State Horticultural Society.

MRS S. N. WHITTLESEY,  
*Secretary.*

STATEMENT OF ACCOUNT OF WISCONSIN STATE CRANBERRY GROWERS' ASSOCIATION WITH HERMAN J. GEBHARDT, TREASURER.

		Receipts	Disburse- ments
1918	Balance in Treasury Jan. 8, 1918.....	\$ 17.18	
Jan. 17	Received dues from 36 members for year 1917....	18.00	
Aug. 28	Annual dues collected from Jan. 1 to Aug. 1, 1918.	55.50	
Dec. 28	Additional dues .....	3.50	
		\$ 94.18	None

FINANCIAL STATEMENT OF THE WISCONSIN STATE CRANBERRY GROWERS' ASSOCIATION FROM STATE AID FUNDS, FOR THE CALENDAR YEAR 1918.

		Receipts	Disburse- ments
1918	Balance on hand Jan. 1, 1918.....	\$330.82	
July 1	Appropriation by legislature.....	250.00	
		\$580.82	
April	Printing Board, printing, etc.....		\$ 17.84
May 11	J. W. Fitch estate, salary.....		10.00
	C. M. Secker, committee work expenses.....		7.67
	Mrs. S. N. Whittlesey, salary to July 1, 1917....		30.00
	Postage and supplies, Feb. 20 to July 1, 1917....		2.77
	Grand Rapids Tribune, printing.....		7.75
	Mrs. S. N. Whittlesey, salary, July 1, 1917, to Jan. 1, 1918.....		40.00
	Postage and supplies.....		12.11
July 17	Grand Rapids Tribune, printing, etc.....		7.00
	F. L. Steib, supplies.....		3.85
	Mrs. S. N. Whittlesey, salary, Jan. 1 to July 1, 1918 .....		40.00
	Postage and supplies, Jan. 1 to July 1, 1918....		18.68
July 24	C. R. Treat, ex. com, work at Madison.....		7.67
Sept. 9	G. W. Paulus, rent for ex. station.....		30.00
Nov. 21	Share of State Fair exhibit.....		100.00
		\$335.34	
Balance on hand Jan. 1, 1919.....		245.48	
		\$580.82	

Mrs. S. N. WHITTLESEY, Secretary.

To the President and Members of the Wisconsin Cranberry Growers' Association.

I am certainly sorry not to be with you at this Annual Meeting, as I have always found your discussions of mutual problems interesting and helpful.

I understand you are to discuss **containers**. This is interesting, and it is a subject that has had much study by myself and others during the last several years. Some years ago Professors Shear and Franklin both began recommending **ventilated** packages. The American Cranberry Exchange and some independent shippers have tried out various packages, and I have closely observed the results of same, and have found that cranberries generally will carry better and keep sound longer in ventilated packages than they will in any other package, but the great difficulty has been to get a ventilated package that was saleable and attractive to the dealers.

The barrel is still the most popular package, and will be for a great many years to come. The trade is prejudiced in favor of the barrel, and it will be many years indeed before any other package is substituted therefor successfully. It is a convenient package to handle, and a good shipping package, and good, sound, healthy cranberries keep very well in the barrel when properly packed.

The ventilated barrel which has been tried out very thoroughly by some growers, and particularly by Mr. Makepeace, has to my mind not been of great benefit, or helped greatly towards the keeping quality, at least not sufficiently to justify their use or the added expense. It may be because the barrels that have been ventilated have not had enough ventilation in them.

Strawberry boxes have been tried out, but unsuccessfully. They are not a good retail package. The exposure to the air in the open package causes the berries to deteriorate in appearance and become dusty, and it is a poor shipping package.

The bushel basket has been tried out quite thoroughly this last season, it is a pretty good re-sale package when in good condition, cranberries keep well in it, but is a very unhandy package to load and to ship, and to haul, and we have not found a basket strong enough to retain its shape. It breaks open easily and the berries are spilled out; this will be true unless such an expensive basket is used as would make it prohibitive.

The third-barrel crate has been quite generally tried out for a good many years for shipment from the East, especially of berries in the chaff, cranberries will keep well and ship well in this package, but it is a very poor re-sale package and never has proved popular. It is usually found necessary at point of destination to throw this package away and repack the berries into barrels in order to get the best results, which, with the added labor, is a very expensive process, and the package is eliminated very largely for this reason.

The half-barrel has been tried out quite thoroughly, but it has no more ventilation than the barrel, and it has the appearance of being smaller than it really is. For that reason it has not proven a successful repeat package.

Several years ago Mr. John J. Beaton, of Wareham, Mass., an independent shipper, began experimenting with a half-barrel box, and this half-barrel box we have tried out to a considerable extent this season, and have found it to be the most practical package of any yet tried outside of the barrel. It is a splendid shipping package, and seems to be a good re-sale package. It makes a very good show in the retail store. It is a box that is almost square and is ventilated. We have found that fancy berries, overripe berries, and tender berries carry considerably better in this package; and keep dry longer than in the barrel, and, as far as I could see, have carried as well as in any smaller box or crate and, it being a better re-sale package than any other package we have tried, we are about to recommend this as being generally adopted. This box holds 50 lbs. net of cleaned berries. A sample of this package has been left at the office of the Wisconsin Cranberry Sales Company, where it can be seen, and I understand the Barrel Company at Grand Rapids may have something to report as to the cost of this package.

#### Advertising

Beyond all question, the advertising campaign conducted by the American Cranberry Exchange this year saved the cranberry growers from a disastrous season. I believe when we have all the returns in the facts will show that this cranberry crop, (total production of the United States) netted all cranberry growers combined at least \$600,000.00 more than it would have netted had the advertising not been done, and this advertising has all been done by the American Cranberry Exchange members at a cost of about \$60,000.00. I am quite sure that it has meant a profit instead of a loss to the cranberry growers. I am quite confident that, had there been no adver-

tising planned, the opening price on cranberries would have been \$2.00 and possibly \$3.00 less than it was, and because of the pessimistic feeling on the part of the trade that cranberries would not sell because of the shortage of sugar, I do not believe they would have bought as freely as they did without the advertising, and I am convinced that many retailers could not have been influenced to take hold of cranberries in the absence of advertising.

I am sending under separate cover some charts showing the market trend of several seasons. I have gone over the last eleven years and have tried to pick out three short-crop years, four average-crop years and the two largest-crop years. This year's crop was not as small as the 1908 crop but the supply was sold out much quicker than the supply of 1908, and it was sold out in face of the most adverse conditions—right in face of the fact that jobbers and retailers insisted that they could not sell cranberries and would not anticipate their wants, only in a hand-to-mouth way. After we began the extensive advertising, however, consumption began freely, and jobbers and retailers had to continually buy. When Thanksgiving arrived the retailers and jobbers found their supplies exhausted, and the stocks in the growers' hands were very short. In the hands of the American Cranberry Exchange, however, on Thanksgiving Day this year there were 32,000 barrels, as against only 7,000 barrels a year ago on Thanksgiving Day; yet these 32,000 barrels were sold much more quickly this year than the 7,000 barrels were sold out a year ago, and at much higher prices, and three or four times that quantity could apparently have been sold in December at good prices, had the berries been obtainable, which certainly shows the effect of advertising.

This is such conclusive proof that it seems to me growers will be very unwise if they do not closely cooperate to support a very strong advertising campaign in any season when we have a good sized crop. If during the season of 1914, \$250,000.00 had been spent for advertising during the first three months of the season, that whole crop would have been sold out at prices that, in my opinion, would have netted the growers one million and a half to two million dollars more than it did net. It was a very unprofitable season, and had an advertising campaign been conducted and the distribution been more nearly under control, the results would have been very profitable instead of being a loss.

It certainly appears strongly to me more important than ever that all growers should unite in the marketing and distributing of the crop and in the advertising campaign. The benefit that the sales organization would have in furnishing information as to the market changes in advance of the berries being sold, as to when to sell and not to sell, which knowledge it is impossible to obtain through any other channels intelligently, it seems to me, overcomes any possible disadvantage of working otherwise. No co-operative body can expect to not have differences arise, differences of opinion and differences of ideas, but these should be harmonized, because intelligent people can work together if they have the desire.

A. U. CHANEY,  
*General Manager, American Cranberry Exchange.*

## PERSONAL OBSERVATIONS

ANDREW BISSIG

In regard to dry and water raking. My personal views are very pronounced and feeling as I do in regard to it I could hardly express my opinion in a letter in such a way but what some member might take exception to it. In fact, they might think that I was too narrow-minded to see both sides of an argument, although I am not so prejudiced but what I realize that there are times and under certain favorable conditions when some water-raked berries do very well. I believe certain tests will show this, but I will try and confine myself to some personal observations which I hope may prove interesting.

As previously stated, spending practically my entire time in the Chicago office it has been my privilege to make personal inspection of almost every car of berries arriving there, either from Wisconsin or from eastern shipping points. More than the usual number of these cars this year reached the Chicago market in the chaff. This was mostly on account of the shortage of help at point of production but it entailed an increased amount of energy and labor at this end of the line. Of course, there was a vast difference in the condition of these various cars. Some were remarkable for their wonderfully good condition and appearance. Some were equally as remarkable in their badness.

Now, how could it be possible for anyone there in Chicago by personal observation, without any information other than what they themselves could see, be able to determine the real reason of this vast difference in the condition of the various cars, but that is one of the points I want to show to the grower, and I want to impress upon them. It is an important part of the salesman's business to find out, or know, if possible, what happened to these berries from the time they were ready to harvest until they were ready to go into the hands of the consumer. It has been truthfully asserted that the affairs of life hinge upon confidence. This is specially true of the cranberry business. Consequently, if the selling agent is fortified with a certain knowledge in reference to any particular lot of cranberries the salesman will be able to place them in such a manner as to be able to overcome much of the trouble that might be encountered before the said cranberries are finally sold and paid for. I honestly believe too often the grower, perhaps not always intentionally, allows the sales company to be fooled in regard to the actual merit of the berries themselves when they have been subjected to a specially adverse climatic condition, or other adverse conditions the berries may have encountered from the time of their coming to maturity and when they reached the retailers' hands.

We must all realize that a staple article of merchandise, and we are anxious to stabilize the cranberry as much as possible, must be gotten into the consumer's hands in merchantable condition. Consequently, it behooves every cranberry grower in my opinion if he be honest with himself that he should never allow the sales company to be fooled as to the real merit of the berries he has ready for shipment or for sale. What is true of the Chicago market is true with every other market.

I have been able in making these various inspections here, together with some information gathered on the outside, to come to a few conclusions that I consider practical from the grower's standpoint. In the first place, so far as possible, I feel very sure that as soon as berries have reached, or nearly reached maturity, harvesting should commence and be pushed hard and the entire crop if possible gathered before any of the berries have a chance to pass maturity, because the few comparisons I have been able to make convince me that cranberries, like almost every other kind of tree or vine fruit, commences to deteriorate as soon as it passes maturity, and in my opinion will continue to deteriorate as fast, if not faster, on the vines after reaching maturity than they would in boxes in the storehouse. Further, when harvesting is in progress, when it is necessary, or when by any other cause, any portion of the crop has to be gathered during or under unfavorable climatic conditions, or any portion of the crop either gathered or on the bogs, has been subjected to some unfavorable condition, so far as possible this portion of the crop should be kept separate from that portion gathered under more favorable conditions. The nature of the unfavorable conditions can only be determined in my opinion by the grower or the employee who has the matter in charge. The use of a little practical common sense as to extent of damage and what disposition should be made of them, together with the real facts coupled with the grower's honest opinion promptly reported to the selling agents, would no doubt save much worry as well as many dollars for every one concerned.

From my own knowledge of the way the large portion of Wisconsin berries are harvested, cleaned and sent to markets and the various inspections I have been able to make during the past years, of berries after their arrival in Chicago, I have really sometimes wondered that it was possible to get as much money as the selling agents have been able to realize for some of these lots, and I can only urge in conclusion that careful handling and as few handlings as possible, together with full information, will certainly save the grower money and make his average results much better in my opinion.

I personally hope that every grower in attendance at this convention will enjoy a prosperous year to come.

## DEDUCTIONS OF A CRANBERRY MERCHANT

LYDA M. HUYCK

This year has been busy for me in work, and as I know you all work, there isn't any use telling you of my labor and trouble. Along with being busy however, there have been some lessons very thoroughly learned.

Our bog has many advantages, but with these, I am sure we have samples of all the disadvantages bogs are heir to. After awhile I hope we can enlarge our acreage, and when we do, we will profit by some of the things we have learned in 1918. I do not mean that these things were all discovered in 1918.

When we build more bog, since we have sand and peat in abundance, we will be very discreet about using peat for anything but that for which we think peat is adapted, that is, for dyke sides and fertilization of our vines. When the peat bed varies in thickness above the foundation sand, we have learned that as time passes the thicker areas of peat settle more than the spots where the peat is thin over the foundation, leaving us with high spots and valleys. This, of course, means an unduly large volume of water for flooding, as well as the extra time consumed when a frost is impending.

We will endeavor to obtain very nearly perfect levels even at high cost, with sand and not peat, and then we will make the peat of uniform depth.

Our meandering creek bed if filled at all will be filled with sand up to the plateau level, for a peat filling would show forever after in settlement and weeds, and grass, and trouble and sorrow.

We will obtain fresh cut vines and these will most certainly be of the proven, best cultivated variety, especially as to size of berry, keeping quality, and fecundity. We have paid many times over for the most costly vines obtainable, in replanting dried out and sickly specimens, in re-milling and accepting cut prices for poor berries, and in less than the top price for little pie berries.

We will arrange for good roads surrounding each section.

Our flumes will go down to a foundation that can be trusted or will have double and tight sheet piling at both ends driven clear to China, and will extend under the wing walls as well.

Because we have learned how comfortable it is to be able to see the condition of our flumes, they will be open and the flume boards will be interchangeable. These flumes will be of large capacity—of sufficient width to permit flooding an acre in one-half hour without too much current.

We will keep to our established policy of spring flooding to draw the frost gradually from the ground and gain that vital, quick start when we finally turn things over to Old Sol—and we will re-sand at least every three or four years.

We will keep everlastingly and everlastingly after the willows and bad grasses—pulling and digging and keeping all adjacent areas well mowed to prevent seeding.

We will continue with our well proven wet picking—always having quantities of drying crates for the berries immediately they are removed from the bog—and never storing or barreling a single berry until that berry is bone dry as to its skin.

We will during the critical period keep Big Ben—and the thermometers—the weather reports, the oil lantern and flume board hook right on the job, and no pleasure, or trouble, or pain, or anything whatever will prevent the flood going on when the flood is needed—and going off in the morning before the sun gets hot.

We can't get something for nothing anywhere, especially from Dame Nature. I am willing to pay—but at times have despaired—but I will say for 1918, that the abundance of big red sound cranberries which threatened to engulf our fruit house, and overwhelm our transportation facilities was a fitting and complete reward for all the trouble.

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## COMMENTS ON THE WATER RAKING OF CRANBERRIES

H. F. BERGMAN

Water raking as a method of harvesting cranberries presents a number of potential difficulties. The degree of success attained in the use of this method depends upon the extent to which these difficulties are avoided or overcome. Perhaps the greatest trouble to overcome is the poor keeping quality of water raked berries. You are all familiar with the charge that water raked berries do not keep. Unfortunately in many cases this is true. On the other hand there is evidence that water raking may be quite successful. Such matters must be worked out in different localities and for different kinds of berries. The object of the present paper is merely to point out some of the factors which determine the success or failure of water raking and to offer some suggestions for the avoidance of certain difficulties.

The factors to be considered may be treated under three headings. First, the length of time that the berries are held under water while being harvested; second, method of drying; and third, conditions of storage.

(1) In considering the first of these three factors it must be remembered that cranberries, the berries themselves, are living or-



ganisms and that they therefore require oxygen the same as other living organisms. If this oxygen supply is cut off the berry after a time dies and a process of tissue disintegration begins and we have in common terms a soft berry. It is in connection with the oxygen supply available to the berries that the length of time the berries are held under water becomes important.

(2) Natural waters under the most favorable conditions contain only a relatively small amount of oxygen. Swamp water is always lower in oxygen content than lake or river water. This arises from the fact that the peat or muck of a swamp is organic matter in a more or less completely decayed condition. Decay can go on only in the presence of oxygen, or to state it differently, oxygen is used up by decaying organic matter. Since the peat or muck of swamps is covered with water it can obtain the oxygen only from the water. For this reason swamp water is often very low in oxygen. Therefore it is undesirable to use swamp water for flooding a cranberry marsh, if river or lake water can be procured.

The oxygen of water is dissolved in it just as salt or sugar is dissolved. The amount of oxygen that may be dissolved depends upon the temperature of the water. The colder the water the more oxygen it will take up. Even at freezing the amount of oxygen present is very small as compared with the amount in the atmosphere. At low temperatures also cranberries require much less oxygen than at higher temperatures. Thus water near freezing offers the best condition for water raking in that there is a greater amount of oxygen present and the oxygen demand of the berries is the least.

The length of time during which berries can safely be flooded depends of course on the oxygen content of the water. Lake or river water at a low temperature would permit a longer flooding period than if swamp water were used. It is not possible at this time to state how long berries may be held in water safely under a given set of conditions. Holding the water on berries for a longer time than one day is not to be recommended. If this time could be reduced to five or six hours it might be even better. This would necessitate in most cases a rearrangement of the bog to provide smaller flooding sections. If, however, water raking is to continue and the objections to water raking are overcome growers will have to consider such rearrangement.

## (2) Method of Drying

This is of hardly less importance than the time during which berries are held in water. Under it are included the rate of drying and the amount of handling during process. The experience of growers has shown that if water raked berries are placed in shallow layer in a well ventilated crate and not exposed to the direct rays of the sun they may be easily and thoroughly dried. The dangers here are from putting too many berries in a crate or from insufficient ventilation so that the berries are not fully dried.

It is the practice with some of the growers to dry berries in one type of box, haul them to the warehouse and pour them into another kind of a box for storage. This makes an extra handling which entails a certain amount of bruising. Other growers avoid this extra handling by putting the berries at once into a bushel box of the type used on Cape Cod bogs. The use of a box in which the berries may be both dried and stored seems worthy of encouragement.

### (3) Conditions of Storage

The variety of the berries and the conditions under which they are grown have much to do with the keeping quality. Each grower should attempt to find a variety of berry that may be grown and handled with success on his own bog. Cultural conditions vary greatly and are considerably affected by climatic conditions of the season. Yet each grower can regulate to some extent the cultural conditions of his bog. With the experience derived therefrom he can select the type of culture that proves most successful.

Although the variety of the berries and cultural conditions affect the keeping quality of the berries, and the latter can be controlled only within certain limits, much can be done to keep the berries in good condition by maintaining proper storage conditions. These conditions have been called to your attention in the bulletin on "Spoilage of Cranberries after Harvest," and also in Dr. Stevens' paper read before this meeting.

In this connection mention may be made of the practice of holding berries in the chaff during the storage period. If the berries are to be kept for some time this method seems preferable. Present data indicates a much smaller loss through spoilage than where the berries are cleaned and stored in barrels. Growers in the East and in Wisconsin too, have sent shipments in chaff to Chicago. The method is a success in that it keeps down the amount of loss through spoilage. Whether or not it comes into general use depends on the facilities for cleaning at terminals and the cost of shipping in chaff as compared with the usual method.

The kind of package in which the berries are kept is also of importance. If held in the grower's storehouse they may be left in boxes as brought from the marsh. For shipping, both barrels and boxes have been used. All evidence so far indicates that berries in barrels either in chaff or cleaned, if held in storage for some time, show a greater loss through spoilage than berries shipped or stored in boxes. This is probably due to the fact that the box as a smaller package allows better ventilation. For keeping berries in storage the barrel is not satisfactory. The general adoption of a smaller package which permits good ventilation is to be recommended. The suggestions for the improvement of the quality of water raked berries may be restated briefly as follows. Do not hold berries under water longer than one day. If possible shorten the period to half a day.

The rearrangement of bogs to provide for smaller flooding sections seems advisable, if water raking is to be continued. Lake or river water should be used for flooding instead of swamp water if possible. Berries should be dried as quickly as possible without exposure to the sun. The amount of handling during drying should be reduced to a minimum. In storage berries should be kept as cool as possible and should have thorough ventilation. Storing in chaff reduces spoilage and is a good practice if conditions permit. A smaller better ventilated package for shipping is advisable.

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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY

Washington, D. C., January 6, 1919.

Mrs. S. N. Whittlesey,  
Secretary, Wisconsin State Cranberry Growers' Association,  
Cranmoor, Wisconsin.

Dear Mrs. Whittlesey: Regarding the special problems which Dr. Bergman and I went to Wisconsin to investigate, namely the factors affecting the keeping quality of Wisconsin cranberries, there was more to be learned this year in the markets than in the fields. Dr. Bergman has been for two months and still is at work in Minneapolis and Chicago. When his work is completed we may be in a position to discuss the problems more in detail. At present our best suggestions are those contained in the bulletin on "Spoilage of Cranberries After Harvest," a copy of which has, I believe, been sent to each member of the Wisconsin State Cranberry Growers' Association.

To comply with your request and give "some impressions" of conditions on your marshes is a pleasure but will not, I fear, prove very profitable to you. My first impression, and the most lasting, was of the great variety of conditions under which cranberries are grown in Wisconsin and the difficulty of reaching definite conclusions as to methods of handling which would prove best in most cases. It is nearly as far as I measure it on the map from Minong to Berlin as it is from Wareham, Massachusetts, to Toms River, New Jersey. Yet it is easy to recognize that in many ways New Jersey's problems are distinct from those of Massachusetts, while one is tempted to class all Wisconsin marshes together because they are within a single state. Then, too, you grow so many varieties (too many I was tempted to write, for in a month's travel about your marshes I had only begun to learn their names). In Massachusetts when a given method of handling is found to be favorable for Early Blacks and Howes the case is pretty well closed. In Wisconsin three or four times as many varieties must be considered before one can begin to generalize.

What I have just written will show why I feel that Wisconsin growers should be especially on their guard against the temptation to assume that because someone else succeeds with a given variety or fertilizer or method of harvesting or handling water they should be equally successful with the same methods. Different localities, different marshes, and different water supply may, indeed probably will, necessitate somewhat different treatment. In particular it is risky to try any given method of culture or handling on a marsh not especially planned for it. Even so well established a practice as clean culture will be fully successful only on marshes which are rebuilt and replanted with that particular type of culture in view.

What I have said about the variety of conditions under which cranberries are grown in your state will show also why we are as yet in a position to make only the most general suggestions as to better methods of handling berries after harvest. Chief among these suggestions is that the berries should be handled less. On many Wisconsin marshes the berries are raked into one type of box, hauled to the storehouse and poured into another type of box for storage. This makes at least one extra handling and bruising which might well be eliminated. In fact, several of your members, among whom I recall Mr. Lewis, Mr. Malde, and Mr. Barber, have already designed and put into use boxes which can be used both in the raking and for storage. Perhaps they would bring them to your next meeting for exhibition and comparison. There was evident too among the growers a tendency toward the use of the bushel instead of the two bushel box for storing cranberries. This may well be encouraged and new boxes should be of this size.

It seemed this fall as if the interest in and discussion of the question as to the advisability of raking cranberries on the water had distracted attention from other perhaps more fundamental matters about which there is no difference of opinion. No method of harvesting yet devised will alone guarantee the arrival of cranberries at market in first-class condition. The variety of the berries, the conditions under which they are grown, their treatment before and after picking are surely of equal if not greater importance. Certain methods of handling after picking are known to improve the keeping quality of cranberries. We have emphasized some of these at the bottom of page 19 of the bulletin mentioned above. Briefly they are "handle carefully, keep cool, ventilate during storage," and for Wisconsin I feel that the greatest of these is "handle carefully."

In closing may I not express my appreciation of the thoughtful courtesy and generous hospitality shown us by the Wisconsin cranberry growers this fall and the hope that we will be able to continue our work for several seasons.

With best wishes for the new year, I remain,

Very truly yours,

NEIL E. STEVENS,  
*Pathologist.*

## TEMPERATURE AND VENTILATION AS AFFECTING THE KEEPING QUALITY OF CRANBERRIES

C. D. SEARLS

I believe government tests have found that the best temperature for the storage of cranberries to avoid decay, is about 40 degrees but I do not think this rate of temperature is practical for the average grower and we do not try to maintain it for three reasons:

1. During October at least this rate cannot be maintained with proper ventilation.
2. Berries can very seldom be packed without sweating.
3. If the grower is fortunate and gets them packed dry they are very liable to sweat before destination is reached. Therefore it is our practice to choose the lesser of two evils and during the early shipping period, that is until November 1, we keep our warehouse at about

55 degrees and after that time lowering it until about 40 degrees is reached December 1.

We sort, mill and pack in the same temperature and do the hand sorting only in a warmer room. The berries are carried through the sorting room on belts so that they are not in the higher temperature but a very short time, probably about one minute, the temperature of the sorting room is about 60 degrees.

#### Ventilation

I believe this the most important item in keeping cranberries and it has been our practice for several years past to allow all the circulation of air through the crates that our facilities will permit. We have remodeled our drying crates so as to help the circulation, and the crates we now use are 2 feet square and about 5½ inches deep. Two sides and the bottom are made of 1¾ slats, or laths spaced 9-32 inches apart. On the bottom of the crates are two cleats ¾ inches thick to allow ventilation when the crates are piled up.

The crates are stacked in piles one directly over the other and a space of 4 to 6 inches is allowed on all sides of the piles. This arrangement gives a chance for circulation if the air can get into the building and we attend to that by having a goodly number of windows and keeping them open most of the time during harvesting, and after, until cold weather prevents. The only exception is during a wet or cold spell. While we have taken all the precaution mentioned to aid ventilation I am of the opinion that we fall short of perfection as I have noticed that a considerable quantity of water condenses on the windows when they are closed during the cold spell; I have also noticed that our squashes which we have tried to store with the berries promptly decay.

I think there are very few growers that take all of the precautions outlined. Some have suitable crates but block circulation by piling the crates up close together and against the walls of the storehouse. Other growers have had in mind the item of keeping an even temperature or keeping out the cold and have built a tight building with no provisions whatever for ventilation. Others think that it is sufficient to have a window or two opened during nice weather while harvesting and afterwards shut up everything tight until packing starts, thereby keeping all the moisture that is given off by evaporation inside the storage room.

## BLIGHT, OR HOW I ABUSED MY CRANBERRY VINES

S. N. WHITTLESEY

It is with extreme modesty or misgiving that I undertake to interest you—not to say instruct—on the subject of blight—or any other matter concerning cranberry growing.

I have made a failure of my own crop for the last three years—but, because I am placed on the program and because your secretary has brought pressure to bear upon me, that I cannot afford to resist, I will tell about the year just passed—the other years I have nearly succeeded in forgetting. Early in November 1917, too early I suspected then—I covered my vines with the winter flood. Later on I felt that I was fortunate in having abundant protection, for some of my neighbors were pumping and others were I presume praying—perhaps both praying and pumping as it seems incumbent upon cranberry growers to answer their own prayers. My vines, for aught I know, went into winter quarters in good condition. They were thoroughly covered all winter with more than a foot of ice over them and probably more than a foot of frost under them.

Late in March I sawed out the flume boards and that splendid covering of ice gradually disappeared—early in April it had all run down the outlet—but that foot of frost under the vines never budged, it was solid as a granite ledge. The whole month of April was cold, not a drop of rain or dew fell, the winds blew constantly and the nights froze hard.

I was very busy sinking a big flume for a new pump location and I wanted the ground water low—I got what I wanted—then I looked up—I noticed spots of pale brown sickly colored vines and more spots and as I looked these spots grew larger—I ran through these vines and kicked off leaves, millions of them—then it dawned on me what I had done—murdered them. I stopped kicking leaves and kicked myself. I wanted to be shot out of a gun in my haste to open the pond and wet those vines. Well, they blossomed from the middle of July to the middle of August, and they blighted, the later the blossom the greater the blight, served me right—I got 600 barrels this year where I should have had 2000.

We had a fine growing summer and these vines recovered apparently and promise fairly well for a crop next year. I will have to hatch some new stunt to work on them next spring for I will never leave the tops in the air and the roots in the ice again.

## COMMENTS ON BLIGHT AND OTHER TOPICS

Mr. Whittlesey was wise in drawing water down early. Better results are obtained by the early drawing down than late, but it is also necessary to have an inch or two of the top surface of the ground thawed so that the roots may take up moisture. If roots are imbedded they cannot get moisture. Draw the water off early, the weather in the spring of the year is not injurious to the vines and roots if the ground is thawed. The sun and wind draw all the moisture from the vines and consequently they are killed. Re-flood about the 10th of May to take all of the remaining frost out of the ground. If not thawed out then put on some more water.

A. SEARLS.

Advertising cranberries is very beneficial to all cranberry growers, bringing good results later on. A good example was this summer owing to the peculiar shortage of sugar. The only way the berries sold at all was by advertisement. With the shortage of sugar it was necessary to get recipes that would not require so much sugar to put up the cranberries. It was only a short time when good recipes were tried out and found to be satisfactory. Ladies bought cranberries to test the recipes. In time all the berries were sold, which was due to the good advertising done by the sales company. Therefore advertising is necessary for good results in the selling and marketing of cranberries and in the end they more than pay for the extra cost.

C. M. SECKER.

Growers should improve their marshes. Many bogs are just dams. People should re-build, re-plant and get better variety. Marsh should be made as near a perfect level as possible. Flumes should be well placed, ditches should be of good size and clean and also deep.

MR. SEARLS.

Experience of M. O. Potter: About three or four years his crop was unfavorable. He labored about two weeks on one acre trying to improve conditions, finally set fire to one corner and then watched and compared results. At first few vines came on the burned section, but later on in the fall the burned section did better than the other part of the marsh.

A sad message comes from Berlin telling of the illness of Mr. D. R. Burr, one of our oldest members. Mr. Burr was stricken with paralysis early in the month and is in a serious condition.

Another afflicted home is that of A. E. Bennett, where the failing health of "Grandpa" Bennett prevents the attendance today of any of the family. Mr. A. C. Bennett was a very prominent figure in the early days of this association and his influence and help is missed.

During the afternoon recess Mr. F. J. Wood of the Wood County National Bank appeared with a large basket of delicious big red apples and a quantity of very fine candy, to both of which all did ample justice. Again thanks are due and heartily tendered for kindly and appreciated attention. Also for the use of this convenient, comfortable hall which is again donated for our meeting. Surely this association has reason to remember the Wood County National Bank and its thoughtful, generous-hearted officers.

THE SECRETARY.

## OBSERVATIONS IN THE EAST

HERMAN J. GEBHARDT

Black River Falls, Wis.

Members of The Association and Visitors: When our secretary, Mrs. Whittlesey, asked me to write a few lines regarding conditions as I found them on the bogs of Cape Cod and New Jersey I felt there was little I could say other than what you already know.

For a number of years I have had a desire to visit the eastern marshes during their harvest season, feeling such a trip would be enjoyable and perhaps profitable in that I might gain further knowledge in cranberry culture. In our line of work as in all other industry, we should ever be on the alert to find or grasp new ideas, thereby simplifying our work and making our efforts more pleasant as well as more remunerative.

Last September when discussing cranberry problems with Dr. Bergman, who was testing the water at my marsh as to the oxygen content, and Mr. Stevens, who was interested in the false blossom and other vine problems, I again got the fever to visit the east. Stepping into my home I announced that I was going east. "May I go too" said one of the members and with that we went—the trip being all the more pleasant, I believe, in consequence of the sudden determination to go.

Should any of the members go east, by all means stop off at Niagara. It is well worth the time spent. In Boston I had the pleasure of visiting many places of historical fame, among them being Boston Common, Old State House, Bunker Hill Monument on Breed's Hill and Christ's Church, from which the lanterns were hung at the time of Paul Revere's famous ride.

The first bog visited was the Manomet marsh about eight miles from Plymouth. Speaking of Plymouth reminds me of some of the historical places—the Plymouth Rock, Pilgrim cemetery and National monument to the Forefathers.

The Manomet marsh consists of about 140 acres under cranberry cultivation. It is divided into tracts of 30 or 40 acres in extent with an occasional ditch through the tracts. Throughout the east they invariably remove the soil when making the cross ditches, leaving a ditch without any dam. I understand the entire bog can be flowed in about two hours, the reservoirs being located a short distance back among the hills. The crop was light this season but I understand time was when it netted its stockholders 21 per cent for a period of 14 years. I was much impressed with the clean culture, the bog



being very clean of all weeds and grasses. I was surprised to find, however, the vines quite long. I had the impression the eastern vines were short as a result of the method of culture. They seemed fully as long as those upon the Wisconsin marshes, but thicker. Perhaps this was due to the fact that many bogs have not been sanded for six or seven years due, in part, to the scarcity of labor—the factories requiring all available help. I am confident they do not prune as much as we are now inclined to do in Wisconsin for they believe the scooping in the fall lifts up the vines and gives the vines a more or less pruned condition and furthermore the bogs are free from runners.

Again I must praise their clean culture and though I feel we in Wisconsin will ever struggle and endeavor to attain their high state of perfection, yet we will never reach it. Now, that sounds pessimistic yet I believe it. We have one factor decidedly against us. Our reservoirs are fields of grass producing an annual crop of grass seed which, falling on the water, is hurled among the vines each and every time we fight old Jack Frost in the gathering season. The seed becomes stranded among the vines and the sanding process completes the planting process. Conditions in this respect are much better in the east. The bogs are usually surrounded by hills free from grass and the porous ground seemingly permits the rain to enter the soil and seeping downward to a hard strata comes forth in springs, producing ponds and short clear water streams thus differing from our Wisconsin streams which usually flow long distances through open marsh areas and carry vast quantities of grass seed to the planted areas. I feel Nature has favored eastern growers in this respect, but I am sure we have other advantages which perhaps tend to even up matters.

The ground before preparing is usually quite heavily timbered and reminds me of our maple and poplar thickets. The top soil is called turf and could hardly be called muck, peat, or leaf mold. It reminds me of the Wisconsin peat but is heavier, quite free from grass and often contains larger roots such as we find on upland. The top soil is removed and the newer bogs are leveled. Many of the older bogs were not leveled and often had quite a slope which, when flooding, resulted in some vines being deeply covered and others but a shallow covering. I was much surprised to know that after removing the top soil they cover the surface with two or three inches of broken up turf. This is covered with three inches of sand and the vines planted. I am unable to decide just why the application of turf proves so helpful. Is it because the planted vines pressed through the sand feed on the rich turf? If so, how about the runners which eventually root in the surface sand above the turf? I doubt if the runner rootlets and young uprights grow through the 3 or 4 inches of sand to the rich turf. Perhaps through the principle of capillarity the richness from below comes upward and is fed upon by the roots. The turf applied to the land seemingly remains in much the same shape and condi-

tion for years and reminds me of many sponges covered with a coat of sand. Is it possible the turf produces a miniature drainage system permitting the oxygen to freely enter the soil? To all of these questions I can only answer, "I don't know." I do know, however, the results are there. I distinctly recollect one of the large growers in the Wareham district calling my attention to a small area where turf had not been applied, and simply the usual coating of sand used. The vines appeared scrawny and not at all thick like the surrounding vines on the same bog. He informed me he intended to dig out the vines and apply turf and re-plant.

Growers with whom I spoke do not favor starting the vines in the spring by holding a little water under the vines, claiming the vines would send forth a long, spindling growth which is tender, weak and easily injured. I saw no false blossom vines in either Massachusetts or New Jersey. Is it likely the custom of holding water under the vines to start them causes a too rapid growth resulting in the false blossom condition? For a number of years I have felt the false blossom is brought on by injury to the bud during the early growing season, rather than a soil condition. Just why certain varieties are subjected to the false blossom while others are seemingly immune is a problem still unsolved.

As I gazed at the berries gathered from the bogs I was surprised at the bright red color and also the great number of berries which had shriveled as a result of the work of the fruit worm and I realized as the industry becomes older in our state we may expect insect pests and fungus diseases as being even more serious problems than at present, for it seems to be a characteristic of Nature to bring such to localities where a crop is grown extensively and continuously. I have never heard any reason given why the Cape Cod berries are a brighter red than the Wisconsin berries. Perhaps a difference in the soil or water causes such or the heavy fogs on the cape followed by sunshine may be the cause. I have observed here in Wisconsin several cloudy days will color cranberries more quickly than clear ones.

Most of the berries are gathered with scoops; the operator kneeling while using the scoop. It caused considerable merriment among the Portuguese negroes when I undertook to use a scoop in a standing position as we do in Wisconsin. Most of the Massachusetts crop is gathered by Cape de Verde Islanders, in New Jersey by the Italian and in Wisconsin, as you know, we often employ the Indians.

The screen houses, as they call them, are often several in number on the large marshes and are frequently built across the bog from the other—the idea being, I presume, not to have all the eggs in one basket as well as nearness to the place of gathering. When sorting they change about, screening for a time from each warehouse.

In Massachusetts the Hayden and Balley machines are used. On the 600 acre White bog in New Jersey 12 or 15 machines are used in their large warehouse. They are a type of separator gotten up by

Mr. White. The separating of the berries being accomplished by the rapid vibrating of metal which does not jar a decayed berry but causes a sound one to move or bound thus separating the two. Mr. Bennett nicely explained the principle at one of our former meetings. The machines seemed to do very good work.

The growers did all in their power to make our visit enjoyable. We appreciate the kindness shown us and will long remember the interesting inter-exchange of thought and pleasant times.

## Memorial

### RUSSELL CASE

Whereas, In the early twilight of life the Grim Reaper has cut down one of our oldest members, Russell Case, and

Whereas, It is the desire of this association to attest the great services rendered to this industry by Mr. Case and to make public acknowledgment of our great loss in his death.

Resolved, That we hereby express our deep appreciation of Mr. Case's worth, that we extend to his relatives and to the community in which he lived our heartfelt sympathy, and that a copy of these resolutions be spread upon our minutes and a copy be sent to the members of his family.

(Signed) C. R. TREAT,  
C. M. SECKER,  
*Committee.*

## MINUTES OF THE AUGUST 13, 1918, MEETING

The thirty-first summer meeting of the Wisconsin State Cranberry Growers' Association was held at the Grand Rapids Street Car Company's Pavilion Tuesday, August 13, 1918. Owing to unavoidable delays the short morning session was given up, the time being well spent in greeting arrivals and renewing acquaintances.

A general response to the appeal for a basket luncheon made the noon hour a most enjoyable one. More than seventy-five were seated at the tables, and to all appearances did ample justice to the well-filled baskets. The comfort of the meal was greatly enhanced by the serving of hot coffee and ice cream, a most kindly and generous tender of the Wood County National Bank of Grand Rapids. After luncheon the meeting proper was called to order by President Searles, who in a few well chosen words presented the needs that at this time should be considered. Most of the afternoon was profitably taken up with discussions on these various subjects.

Mr. W. A. Fowler, manager, gave a very clear report of a pumping outfit installed on the Williams cranberry marsh at Mather.

Mr. M. O. Potter told of methods employed in caring for his marsh and harvesting crop.

Mr. C. D. Searls told very fully their method of caring for and curing water raked berries.

Miss Clara Smith's views on the need of co-operation among growers was most timely and well met.

Mr. E. K. Tuttle's paper on a new venture in irrigation was well received. Mr. Tuttle's activities are not all along cranberry lines, as evidenced by a large basket of most beautiful looking and excellent eating apples tendered the association.

Adjournment was followed by a meeting of the Wisconsin Cranberry Sales Company of which most of the growers are members. When among other matters the state fair received added attention with a decision to devote two hundred dollars toward the exhibit at Milwaukee in September. Amount to be equally shared by the sales company and association.

MRS. S. N. WHITTLESEY,  
*Secretary.*

## ADDRESS BY PRESIDENT SEARLS

Ladies and Gentlemen: The August meeting of this association was originally called together to estimate the prospective crop of berries, fix prices for picking, also the rate of wages for rakers, and other business pertaining to the coming harvest. We of late years have rather neglected these matters.

Today it seems to me it is particularly wise to go over these matters carefully, and we should in addition consider the manner of harvesting.

From all reports I am able to gather there is a bountiful crop of berries in prospect. We have to face very trying conditions. The labor problem is a very trying one, labor is very scarce, and if not handled carefully will be very expensive. The sugar situation is a most alarming one, for cranberries without their allowance of sugar are rather unpalatable.

The press is endeavoring to educate the people to use syrup instead of sugar which many no doubt will adopt, but still the shortage of sugar is bound to be felt in the marketing of your berries.

It seems to me it will be wise to hold your harvesting expenses as low as possible. I believe no hand-picking should be done, that the raking or scooping should be done in such manner as will insure the lowest possible cost in harvesting. I believe it is up to your sales agent Mr. A. U. Chaney to urge the adoption of the water method of harvesting. That the grower should have time to prepare his crates and scoops for such method of harvesting.

We have this method of harvesting down to a science, and know whereof we speak, and will be glad to be of assistance to any grower wishing for such information.

I wish to call your attention to the passing away of one of our oldest members of this association, Mr. Russell Case, that suitable resolutions of respect may be acted upon and copies sent the family.

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## A NEW VENTURE IN IRRIGATION

E. K. TUTTLE

There is probably no more complex or hazardous business than that of growing cranberries.

A Massachusetts man asked a cranberry grower to tell him all about growing cranberries. The grower said, "I cannot tell you all about the cranberry business, neither can I refer you to any one who can—that man has not been born yet." Many and diversified are opinions. Some growers advocate holding a flood on the vines till late in the spring. We have been told we should cut out our slash boards and let the water go with the melting snow. Again they say we should not flood in the fall until marsh is frozen, but one of the most successful growers in the early seventies, being short of water, closed his gates as each section was picked, and held the flood till the following spring.

We have in mind that the cranberry is a water plant, and on a 15-acre of new planting, we have a reservoir along the west side, (the fall of the land is to the east) sections lay north and south, four rods wide by 36 rods long. We now are digging a ditch along the south

side 16 feet wide, putting in eight gates for flooding. We also have a ditch along the north side with outlet gates in, so that most of these sections can be flooded separately. If a cool spell comes during harvest we can flood one section at a time and rake on the water—this enables the men to put in full time and with good drying facilities the berries can be thoroughly dried before putting in the warehouse.

We also have a large outlet gate at southeast corner of the fifteen acres. This continuation of reservoir along the south side I found a great benefit the two cold nights of July 29 and 30. The body of warm water laying there caused a heavy fog that spread over the sections. Would that I might have had Judge Gaynor at my side for suggestions as to better methods of procedure.

Another subject I would like to speak about and that is the horticultural development of our state. Those in charge have passed laws for grading apples, but no law to compel spraying. If apple trees are sprayed three times—first when buds first show pink of blossom, second when half of blossoms have fallen from tree and third time ten days after—using 1 gallon lime sulphur,  $1\frac{1}{2}$  pounds arsenate of lead to 40 gallons water with power spraying outfit, you will have no wormy fruit, but fine, smooth, beautiful apples that go 85 per cent and grade up to requirements of grading laws. While if not sprayed they will not hold up to 15 per cent. Another thing, where apples are sprayed they will hang to the tree until picked. Would that the state could give to the cranberry growers a formula to do away with the fruit worm as the commercial apple growing states have given to the apple growers.

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## INSTALLATION AND WORK OF A PUMP

W. A. FOWLER

The Williams Cranberry Company installed a pump on their marsh at Mather, Wis., the first of July. This pump is twenty-four inches in diameter and is known as the Malde pump. This pump is used to pump the flood water and the seepage back into the reservoir. At the present time it has been used only to pump the seepage as we have had no occasion to flood since the pump was installed. By means of this pump I have been able to keep my reservoir full, a thing which has been utterly impossible heretofore.

In case a flood is necessary I will have the needed amount of water. The pump will also be a decided benefit in high water time, as we will be able to pump the water off the marsh thus preventing a scald. To manipulate this pump we are using a fifteen horsepower Fairbanks & Morse kerosene engine. This engine is more than capable of handling the water on a three-foot rise.

In regard to the prospect for next year's crop, I think if all indications prove true our crop will be greater than ever before.

## FERTILIZERS

EDWARD HABELMAN

I have been using what they call tankage for four years. Last year's crop was injured by sanding too heavily the winter before, but the year before that we had some berries that went three bushels to the square rod. This year, the prospect is the best I have ever had. We put the fertilizer on in the spring—about 500 lbs. to the acre. Also used hardwood ashes on some, at the rate of four barrels to the acre. That shows up well too. Tried the fertilizer in different ways, but about twelve quarts to the square rod gave good results as we had about twice the amount of berries where used it that way.

## CO-OPERATION ON UNIFORM WAGE

CLARA S. SMITH

Mr. President, Ladies and Gentlemen: I have been requested to write a paper on co-operation on the wage question and will take up just enough of your time to present a summary of ideas as expressed by several growers.

Co-operation is one essential to success in anything. Growers cooperate in many ways. Among the individual growers one does for the other whenever possible, therefore it would not seem impossible for the growers to unite on the wage question. We all believe in giving a man a fair, livable wage, but where the trouble arises is when one grower pays a livable wage, and another who is perhaps a little short of help, or bent on getting all kinds of it, regardless, offers a larger sum. This leaves the first man in the lurch. He probably loses his men. Of course it isn't all the grower's fault. Men will come to hire out provided you pay as much as so and so pays. So and so pays his men such and such a price. Naturally you feel that you have to meet the demand if you wish for help. Some days later you learn neighbor so and so never paid or promised to pay such a price. Your men have told the neighbors' men what they are getting and this information generally causes discontent and probable loss of help. No grower would purposely cause all this trouble for another but just the same they have done it all unconsciously.

Therefore, as has been expressed by several prominent growers—it would be an excellent plan for the growers to unite on a wage limit.

If men are willing to work for less than the limit agreed on, that would be entirely your own affair—but the agreement to go so high and no higher, would soon teach the workmen that the old game was played out and it would lessen the discontent and loss of men among growers.

## NOTES ON DISCUSSIONS

In the exchange of opinions on various subjects discussed by the members all seemed to feel the crop prospect good but labor scarce and high and that a fixed price should be agreed on. This was not easy to do as varied conditions made a uniform wage hardly possible. Keeping qualities received much attention, both as to health of vines and fruit, care before and after and method of harvesting, temperatures maintained in warehouse, etc. All agreed the keeping quality of berries very important. One-third poor quality would give the two-thirds a black eye. Testing bogs for infection was advocated, also the use of sprays. Mr. Bennett's treatment of three heavy sprays seemed to have overcome his difficulty in keeping quality as last year his berries kept well. As a measure of economy President Searls urged raking on the water. This drew out many comments pro and con. Mr. Barber thought this method less harmful to vines than dry raking with fewer berries lost. The danger in this method lies in slow drying. Miss Huyck said success came in getting the berries absolutely dry before placing in barrel. C. D. Searls said they put but one box into crate as soon as gathered—shoving them to sides of crate leaving the center vacant so air could circulate freely—stacking these crates in single tiers and covered the top crate and left them to dry which would be from a few hours to a week. Crates were filled when moved to warehouse which was kept open except in muggy weather. On the other hand some are so opposed to taking berries in wet that they will not have them touched until the dew was dried off. M. O. Potter said not one in a hundred had judgment enough to carry on water raking. Some berries are injured by hot sun after gathering. Mr. Gebhardt covers crates so sun cannot affect them. O. O. Potter prunes and weeds marsh after harvest, then again weeds and rakes in the spring. S. N. Whittlesey weeds, prunes and rakes spring or fall as conditions warrant but always rakes entire bog after harvest.

Before the close of the meeting the secretary was instructed to tender a hearty vote of thanks to Mr. Guy O. Babcock and the Wood County National Bank for the hot coffee, sandwiches and ice cream which added so much cheer to the luncheon hour.

MRS. S. N. WHITTLESEY,  
*Secretary.*

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## WISCONSIN STATE CRANBERRY GROWERS' ASSOCIATION

An organization having for its object, improved quality of fruit, better grading, packing, and extension of market, increased consumption by making known the wholesome and medicinal virtue and value of the cranberry; better methods of cultivation, and the collection and publication of statistical and other information of interest and worth to all concerned.



January, 1919, report now ready for distribution, will be sent to all entitled to same on application to Mrs. S. N. Whittlesey, Secretary, Cranmoor, Wood County, Wis.

**ASSOCIATION OFFICERS**

President, Andrew Searls, Grand Rapids, Wis. Rt. No. 3.

Vice President, F. J. Hoffman, Mather, Wis.

Secretary, Mrs. S. N. Whittlesey, Cranmoor, Wis.

Treasurer, H. J. Gebhardt, Black River Falls, Wis.

Member of Ex. Com., J. J. Emmerick, Cranmoor, Wis.

