

SALEM DISTRICT INDUSTRIES

SIXTH CONSECUTIVE YEAR

THE DAILY STATESMAN dedicates one full page each week in the interests of one of the fifty-two basic industries of the Salem district. Letters and articles from boosters are solicited. This is your page. Help boost Salem.

The Statesman will publish and award a prize each week for the best essay submitted by a grade school pupil on the industries scheduled on this page.

For instance: Salem district has two counties growing the sacred myrtle—the only place it grows on this continent. What unique fact do you know about the district? Address articles to Slogan Editor, care Statesman.

CHERRY GROWING PROBLEMS AS FOUND BY PROFESSOR SCHUSTER OF THE OAC

The Sweet Cherries Must Have Pollenizers, and There Is a Long and Patient Search for the Best Varieties to Be Used, Having a Bearing Upon Picking and Marketing Problems—There Is a Possibility That Too Many Bings and Lamberts May Be Put Out, Especially in Poor Locations and With Indifferent Attention

(For the purpose of checking up, especially by new growers, it is worth while to print below what Prof. C. E. Schuster of the Oregon Agricultural College, wrote for the annual cherry Slogan number of The Statesman a year ago, as follows:)

At the time that Lewellyn brought his stock of nursery trees across the plains there could have been little conception of the role the sweet cherry was to play in the future development of the Pacific coast. With the Royal Ann or Napoleon came other lesser varieties, and from these have developed the Bing and Lambert, the Bing Lambert, and Royal Ann make up a noble triumvirate of varieties. Their quality and excellence is so high that they have rated as first class cherries and the acme of excellence for this fruit.

The Dividing Line
The seems to be a pretty definite dividing line as to the use of these varieties. The Royal Ann, although shipped in part, finds its greatest use in the canning trade. In the past, except in a few places, it has been a better money-maker than the other two varieties. Lately with the development of better refrigerator practices and better handling methods, the shipping industry has expanded rapidly, and the black cherries, like the Bing and Lambert, are receiving much attention.

Warning on Poor Locations
The prices for black cherries shipped east have stimulated considerable interest in the Bing and Lambert, and we will undoubtedly find many plantings going out in poor locations in this state. In the Willamette valley shipping cherries were profitable this year, but due to an unusually dry year in which there was little development of brown rot. During ordinary season, brown rot will be a menace, and always very difficult to control in this section. For that reason the planting of black cherries should be considered as very doubtful until better methods of control have been put into effect for the brown rot.

Experimenting on Blacks
The black cherry has never been successfully canned over a period of years. Experimental work is under way at the present time to determine really successful methods for canning these cherries, and if these are worked out, then we may find an added market for this kind of cherry. On the whole, it would seem that the plantings in the Willamette valley had better be mostly confined to the canning cherries, which will be the Royal Anns.

Avoid Secondary Varieties
Very little is done in Oregon with the secondary varieties. Except in a small way the growing of early varieties, like the Black Tartarian, has not been undertaken successfully. Early cherries from the mid-season and late varieties of California districts. Such cherries are so much better than the Black Tartarian or similar varieties that the latter have no chance on the market. These early cherries are only of use in a limited way we find a few growers handling the early cherries successfully, but these are for only very local shipments, and very local trade, and cannot be considered in the shipping industry to any extent.

The cherry fruit fly is making its appearance in different parts of the state, and it will be but a short time until it will be in all sections. However, this can be easily controlled, although it adds another burden to the cherry grower.

Pollination Problems
Due to the excellence in quality of the Bing, Royal Ann, and Lambert, and also to the development for the canning and shipping industry, the attention to the plant-

ing a few years ago was focused entirely on these three varieties. When these extensive plantings were supposed to come into bearing, the crops, in many cases, were very light. Some orchards would have good crops annually, while other orchards would regularly produce very small crops, with an occasional heavy crop.

Early investigations by the experiment station disclosed the fact that sweet cherries were self-sterile. In those orchards producing heavy crops annually were to be found secondary varieties planted with the Bing, Lambert, and Royal Ann.

The statement that the cherries are self-sterile and need cross-pollination is often questioned by growers as they watch some trees behave. However, we have yet to locate a tree that is bearing and is absolutely isolated from any other form of cherry. Tales of such trees now and then reach our ears, but none of these tales have yet been verified. Our fondest dreams is to locate such a tree with good fruit qualities. Whenever a report is received that there is a self-sterile tree bearing from pollination of its own pollen, we investigate in the hope that we can locate a tree that does not need cross-pollination.

Sweet Cherries Self-Sterile
Such findings, if confined to the state of Oregon alone, might be looked upon with more or less skepticism if that condition held only in Oregon. California has been working on the question of cherry pollination for a good many years, and reports the same results as found in Oregon. England and Sweden have conducted extensive investigations, and their results check with those of America; namely, that the sweet cherry is self-sterile, and in many cases more or less inter-sterile, depending upon varieties. Holland and France report all experiments with the same results.

Incidentally it might be noted here that Oregon, England, Sweden, and France report the sour cherry to be self-sterile, partially self-sterile, or entirely self-sterile, depending upon the variety; that is, some varieties will need cross-pollination while other varieties are effective when planted alone.

It is a known fact that in certain years the low producing orchards with very few pollenizers will often produce good crops. This occurred in 1924. As a rule these crops occur during those seasons when warm temperatures prevail during the blooming season. During warm weather the insects fly much more, so that the natural distributing agents of pollen are present in much larger quantities and cover a much larger territory. In other words, during the cold seasons the flowers and the season were unable to produce fruit, but the insects did not distribute the pollen to the flowers; also from experimental data it is shown that the flowers under natural conditions are effective and capable of producing fruit at any place provided the pollen is located there.

Hunting the Pollenizers
In the years of this pollination work of the sweet cherry, varieties like the Long-Stemmed Waterhouse, Black Republicans, Black Tartarian, Governor Wood, Elton and Coe, with others, were recommended as pollenizers for the Royal Ann, Bing, and Lambert. From an experimental standpoint, these worked well, yet from a practical standpoint in the field they might or might not be satisfactory. When the work was taken up again in 1922, the same results were obtained. Certain varieties would be excellent in the experimental work, yet varieties of the same name might or might not be successful in the field. Black Republicans, for instance, might give good results, or they might not.

This led to a study of field conditions, where it was found that no one knew exactly who was a Long-Stemmed Waterhouse or exactly what was any other variety, especially the secondary varieties. From five to six types of most of these varieties were to be found and readily distinguished. No one knows how many more there are that are almost or practically identical to the main variety. The sweet cherry produces seedlings of very high merit, and it is a comparatively easy problem to duplicate the secondary varieties.

A Patient Search
In the past a nurseryman could propagate any tree of the desired type without damage to any one. Without being exactly true to name, it did no particular damage to any one. It has almost come to the place where a variety name should be organized not as a variety name but as a type name. Due to the mix-up in nomenclature of the cherry, the work in 1923 on the pollination of the cherry was changed somewhat. If we were not able to recommend unreservedly all the varieties that proved successful in our work, we could do another thing for the grower—we could certify as to the individual or to the single tree. This was undertaken with two views in mind; first to provide seedling wood for topworking the old non-producing orchards of the state; second, provide propagating wood for nurseries so that young trees could be put out with a certified pedigree showing that the parent trees would cross pollinate with each other. In other words, this was another phase of pedigreed nursery stock.

For this purpose trees were located of the Bing, Lambert, and Royal Ann varieties, and definitely located by charts. Then the pollenizers were selected and located in the same way. The pollenizers in practically all cases were selected from the heaviest bearing orchards of the district. The aim were sure would be good for cross-pollination. We made but little attempt to find a superior variety for cross-pollination, or varieties that were superior from the commercial standpoint. The locating of the ideal variety is a problem for the future. With the heavy plantings going on in the state at the present time and the loss of income from non-producing orchards, it was felt that the certification of the material that was very sure to work and produce a crop on the commercial varieties would be of greater importance than to work over a long period of time in the future to find the ideal combinations.

As it is now, there are at The Dalles, Oregon, certain black cherries, like the Black Republican and Norma, which seem to be very true to type and trees from these blocks have given successful results in our experimental work. At the same time these individual trees or groups of trees have got heavy crops on the commercial varieties. This material will be especially valuable in top-working older orchards where a large amount of material is available. At the same time we have numbers of Royal Ann, Bing, and Lambert trees with accompanying pollenizers where the individual trees are located so that propagating wood should be available to nurseries for making combinations of varieties necessary for successful production. This same work will be carried on in at least one place in the Willamette valley the coming season.

The Black Republican was used in large quantities because it is a variety commonly found in The Dalles district, and also because it is a variety of considerable value for that district. For many other districts it is of no particular value unless it can be shipped.

The Norma is a variety apparently true to type, as it was propagated at one time from a single tree and has a fair value as an early cherry. It can be used in a limited way for the early market. The Long-Stemmed Waterhouse used at The Dalles in part came originally from Mr. Ferguson's place near Salem. This is a larger fruited variety of the Waterhouse, and did fairly good work in cross-pollination. Several types of the Centennial were also successful, but this variety has been found more prevalent and more successful east of the Cascade mountains than in the Willamette valley. Other individual

THIS WEEK'S SLOGAN

DID YOU KNOW that Salem is the "Cherry City of the World," and that she is entitled to this proud distinction by reason of the fact that she is the marketing place and headquarters of the best cherry country known—with a cherry industry already large but capable of indefinite expansion; that, with the proper pollenizer and with bees to carry the pollen, cherries in the Salem district are a sure crop; that they are a profitable crop, the industry inviting men of brains and brawn from the wide world; and that in sweet cherries this district has what amounts to a franchise; the only fly in the ointment being the lack of proper tariff protection, which there is a fight to have granted by congress?

Dates of Slogans in Daily Statesman (In Twice-a-Week Statesman Following Day)

- (With a few possible changes)
- Sugar Beets, Sorghum, Etc., May 6
- Water Powers, May 13
- Irrigation, May 20
- Mining, May 27
- Land, Irrigation, Etc., June 3
- Floriculture, June 10
- Hops, Cabbage, Etc., June 17
- Wholesaling and Jobbing, June 24
- Cucumbers, Etc., July 1
- Hogs, July 8
- Goats, July 15
- Schools, Etc., July 22
- Sheep, July 29
- National Advertising, August 5
- Seeds, Etc., August 12
- Livestock, August 19
- Grain and Grain Products, August 26
- Manufacturing, September 2
- Automotive Industries, September 9
- Woodworking, Etc., September 16
- Paper Mills, September 23
- (Back copies of the Thursday edition of The Daily Oregon Statesman are 25 cents. They are for sale at 10 cents each, mailed to any address, current copies 5 cents).

THE UNIQUE LIFE STORY OF THE CHERRY FRUIT FLY, A BAD PEST

The Rascal Lives Out of Sight for Ten Out of the Twelve Months of Its Life Cycle, But for a Short Part of the Two Months It Is Voracious and Fairly Easy of Destruction by Proper Vigilance

BY C. J. McINTOSH, OAC.

When cherry growers in some of the favored districts of the Willamette valley discovered a few years ago that some of their choicest market fruit was so heavily infested with maggots as to have the appearance of trying to squirm off the branches, they were most disagreeably surprised. On recovering from the surprise they went to work to learn what the new plague might mean, and, largely in cooperation with representatives of the Oregon Agricultural college experiment station entomologists, uncovered the unique story of the cherry fruit fly somewhat as follows:

The adult fly, which appears suddenly in the cherry orchards about the time the Royal Ann cherries are beginning to color up, is a small fly, two-thirds the size of the common housefly with banded wings and abdomen, and striped thorax. The bands are black, those on the wings having somewhat the effect of pictures. Taose on the abdomen are quite regular, while those on the white spot atop the thorax are very narrow and inconspicuous.

When it first appears about the cherry trees and other trees and plants that produce globules of sweet on the foliage, this fly seems to have nothing in particular to do further than flit about on glad wing while basking in sunshine, feasting on foliage sweets and other and more solid foods, and enjoying its season of mating. Then in 10 days to two weeks the females begin to seek out the fast coloring fruit of the sweet cherry—preferably the late Duke and the Lambert though notaverse to the Royal Ann and the Pinz, or even seedlings and no-sweet cherries—and to punch tiny holes in the skin for depositing their eggs. As the eggs are very small and

leaf in the sunshine and to make love and mate for a new orgy of egg laying.

A Dread Enemy
It was thus found that this fly, close relative to the dread Mediterranean fruit fly, passes some ten months of his annual life underground, and most of the other months hidden under the skin of the cherry either as an egg or a worm. In fact the only time and chance the growers have to get at the pest is the brief two weeks of eating, mating and egg laying. If they do not get it then they have scant chance ever to get it at all.

It happens that the fly is rather voracious on the occasion of its first appearance in public, eating and sapping up solids and sweets on the foliage of the trees it visits. By adding a little poison to this food and drink, the grower found that he is able to kill it off in large measure and greatly diminish the extent of damage to his cherry crop. The poison bait recommended by the experiment station and practiced with good effect by numerous growers, is as follows:

Lead arsenate a half pound; molasses or syrup—never honey—2 quarts; water, 10 gallons.

Three applications are recommended and found best in practice. The first when the fruit fly first appears, usually about the time the Royal Anns begin to show good color, June 5 to 15, the second ten days later and the third one week after the second. Two applications may prove enough if timed well and rains do not wash off the bait. Rains may even wash off the bait so seriously as to make another application necessary. It is generally best to make application to close by trees of prune or other varieties that seem to attract the fly. If this is done, and if infestation does not result from flies from neighboring orchards, infestation is usually greatly lessened, sometimes entirely prevented.

Not a great deal of the poison is needed, a pint to a quart being ample for average large trees. The flies are very active and flit about the upper surface of the leaves lapping up the sweets, so the application is best made in small droplets to the upper surface of the outer leaves.

Cultivation of the soil about the roots of the trees, especially shallow plowing that turns up the soil some two or three inches deep where the chickens and birds may scratch out the pupae and devour them, helps in control.

CHERRIES, PRUNES AND WALNUTS ALSO

A Magnificent Place With a Fine View in the Beautiful Waldo Hills

D. J. Miller was one of the men asked to write something for this annual cherry Slogan number of The Statesman.

Mr. Miller met the Slogan man and said he was too busy to write, but he gave the information that he has 11 acres of cherries, Royal Anns and Lamberts. He has also 11 acres of prunes and 15 acres of walnuts.

Mr. Miller's place is a mile east of Macleay, and is just over the fence from the 224-acre Lambert cherry orchard that is being set up by Salem parties.

Mr. Miller says he gets a ton and a half to two tons to the acre of cherries from his mature trees, in ordinary years. He surely has a magnificent place, with a magnificent view, and the Slogan editor predicts that, when all his fruit and nut trees are in full bearing, he will be "sitting on the world."

GOLF TOURNEY UNDER WAY

SEATTLE, Dec. 22.—Checking up today showed the Pacific north west contributing 15 players for a \$10,000 open golf tournament at Los Angeles January 3, and 9. The players are generally expected to contest in other months while in the south, whether some of them had already gone.

FIVE HURT IN WRECK

PARIS, Dec. 22.—(By Associated Press.)—Five persons were injured, one of them seriously when the Basil-Paris express was derailed today at Noisy-Le-Sec, in the department of the Seine.

THE CHERRY INDUSTRY IN THE WILLAMETTE VALLEY, DOWN TO DATE

None Better Can Be Produced Any Place in the World, Says Prof. Schuster—For the General Commercial Cherry Grower, for This Valley, the Royal Ann Is the Standby—Growing of Such Canning Cherries a Very Suitable Form of Fruit Growing

Editor Statesman:

Sweet cherries are at home in the Willamette valley, being closely associated with the development of horticulture in this section from the beginning. When Lewellyn brought his stock of nursery trees across the plains a few sweet cherries were included. From that small beginning has come a great industry, for many of the commercial varieties, headed by the Bing and Lambert, were developed here. Seemingly the home for sweet cherries, this territory has seen new and better cherries produced until now NONE BETTER CAN BE PRODUCED any place in the world.

While the quality as to size, color and flavor is satisfactory with most varieties a difficulty confronts cherry growers from the natural climatic conditions that may affect the fruit after it is mature. This difficulty is the danger of rains and wet weather about the time the fruit is ripening. This may cause the fruit to crack open or else brown rot and molds may develop.

With the danger of rains splitting the fruit, a cherry grower always is in a hurry to pick the fruit. This green fruit is particularly noticeable in canned cherries, like the Royal Ann. While the quality of the pack is lowered by this kind of fruit, the grower cannot be blamed for picking the fruit if it can be sold.

While the grower plays safe by picking the fruit early in some season, in others he loses decidedly, for studies have shown that the cherry makes a decided increase in size just before full maturity. Cherries picked as they had attained a maturity that gave good quality had gained from 22.2 to 26.3 per cent in weight over the cherries that were picked at the time many growers were rushing their cherries to the canneries. By this earliness of picking, they were losing approximately 25 per cent of the tonnage they might have received. Of course in some years they may lose much more than that if left longer on the tree, so it is a question whether to wait and run a chance of obtaining better quality and more weight or to pick early and being sure of a reduced tonnage of lower quality fruit.

Black for Shipping Early
This same danger of cracking is present also in the black cherries, but with the added danger of brown rot when shipping them fresh. As yet no satisfactory method has been devised whereby these cherries can be successfully canned, so if they are to be marketed, they must be shipped.

In shipping fresh cherries from this section, brown rot is an always present menace. The frequent rains and the general humid conditions are conducive to the presence of a great number of spores which are ready for infection of the fruit as soon as conditions are right. Added to the humid condition of this country being ideal for the development of brown rot, are the humid conditions of the refrigerator car. While the cool temperatures of the car may retard the development of brown rot to a certain extent, this trouble will work fast when the cool fruit is exposed to warm atmosphere and the fruit begins to sweat.

Theoretically, it is possible to spray for brown rot and hold it in control. It is on the same basis as spraying for codling moth or scab in apples. If everything is done at the proper time, in the proper way and with proper materials, worms and scab can be practically eliminated in apples. However, the experience of commercial growers has not shown it to be possible, in all years. If the same percentage of brown rot in cherries develops as does worms and scab in apples, it is doubtful if shipping cherries is practical. The scabby and wormy apple can be picked out, but the infested

cherry goes in and with its decay is bound to infect other sound fruit in the same box. When it is demonstrated that spraying for brown rot is 100 per cent efficient or nearly so, then can shipping of black cherries be considered as feasible from this valley. In some seasons of little rainfall, shipping fresh cherries will be successful, but in many others it is very doubtful.

Districts east of the mountains and in other drier climates do not have the menace of brown rot. When they have crops they can ship black cherries without fear of loss in transit and so are not handicapped by this possibility. The prices received by these districts for black cherries cause Willamette valley growers to look with longing eyes on this trade, but with present day conditions, it would seem the safe conservative practice to stay away from future plantings of black cherries for fresh shipping. There is a considerable acreage of black cherries now in Willamette valley, and until it has been demonstrated over a period of years, that shipping of black cherries is successful, more plantings would seem inadvisable.

Royal Ann Standby
That leaves the sweet cherry industry in the Willamette valley confined mainly to the Royal Ann. While the prices for that variety do not compare favorably with those received for black cherries shipped fresh, yet growers of Royal Anns who are obtaining a good crop are by no means going broke. Their returns may seem small in comparison to some others, but still they are making good profits. With the large number of canneries there is assured a market.

Sour cherries are a more recent development for this valley and at present are paying well. A few years ago there was a demand for these cherries and it was urged that large plantings be made. Now the canneries are holding up their hands in a helpless attitude at the prospect of the crop in the future.

With conditions as they are now the market for the sour cherry is confined to the west coast. As soon as freight rates increase from the east so that prices for canned fruit are equal to that of the eastern supply, there is little use of trying to compete with the enormous production of the east. It is for this section a limited market only.

So in reality there are two lines of activities for cherries. The Royal Ann for canning is a fairly safe project with returns equal or superior to many other fruits. The sour cherry is good only for limited quantities. The black cherry is a very uncertain problem as yet.

The cherry maggot, which is gradually spreading with the later black cherries, is bound to be a factor. These are subject to control by spraying.

It is pretty generally concluded by growers that pollination is necessary and nearly all new plantings going out are being provided with pollenizers. This should obviate some of the losses incurred by owners of many of the older plantings.

Another source of heavy loss in the past has been from cherry gummosis which girdled and killed many of the trees. By using Mazzard seedlings for the trunk and scaffold limbs, the growers are now insuring themselves against total losses of trees.

From a study of returns received by some growers, it is shown that where cherry orchards are well located as to good soil, air and water drainage, and provided with proper pollination, growing of canning cherries is a very suitable form of fruit growing.

C. E. SCHUSTER.
Corvallis, Ore., Dec. 22, 1925.
(The reader will note that the article written for the Slogan

SEND A COPY EAST

(Continued on page 9)

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