

# WILLAMETTE VALLEY FARMER

News and Views of Farm and Garden —By LILLIE L. MADSEN



At left (above) Evelyn Johnson is shown setting pears on a peeler (at 35 a minute) at Paulus Bros. cannery; 28 minutes after this first step the pears are sealed in air-tight containers, ready for market. In photo at right, Sylvia Esleman (left) and Gay Fabry, both of Salem, are canning "fancy" pears.

## Canning Industry's Founder Born 200 Years Ago Today

By LILLIE L. MADSEN  
Farm Editor, The Statesman

Two hundred years ago today, Nicholas Appert was born in Paris. Today, Salem alone has a food-processing industry valued at close to \$30,000,000 in 10 freezing and canning plants.

The connection between the two? Appert invented canning, the first means of food preservation. And so this autumn, canners throughout the world are observing this anniversary of the birthday of the one-time obscure baker, candy-maker, brewer and distiller, upon whom the illustrious Napoleon Bonaparte, in the year 1796, bestowed an award of 12,000 francs.

France First Place

Through its 200-year history, France has had a quite a bit to do with the advancement of food preservation. A war brought about the first invention. France was at war with the greater part of Europe at the time. Scurvy and malnutrition were making inroads upon both the armed forces and the civilian population. So Napoleon, in order to give his armies an improved food ration, offered the 12,000 francs for an invention whereby food could be kept over an indefinite period of time. Fifteen years later, Appert collected.

Robert C. Paulus, Paulus Brothers Cannery, Salem, in speaking before the Pacific Northwest Trade Association meeting recently at Yakima, Wash., said that Appert's theory that fresh food would keep if it were sealed in an air-tight container and followed by the application of enough heat to cook the food thoroughly, is still the basic principle by which food is preserved. Years later, the experiments of Louis Pasteur brought about the present knowledge that heat adequate to kill the bacteria which causes the fermentation and decay, is the secret of the well-kept food can.

Before the award was offered by Napoleon, Appert had thought up the idea that air was the chief food spoiler. Heat, he believed would drive out the air, but the only thing he had as a food container in which to cook the food, was a glass bottle with a small mouth. His first step in the food preservation experiment was to design a bottle with a wide mouth.

He filled his wide-mouthed bottles with raw foods, wired on tops of cork and set them in boiling water. He cooked them at different temperatures and different lengths of time. Then he sent them aside. After quite a spell, he opened them, tasted, and finding the taste good, canned again. This time he sent some of the bottles of food around the world in ships to see what affect different climates would have on the product.

For 15 years he kept up his experiments, and following his award on Jan. 10, 1810, he used his 12,000 francs to set up a food canning business at Mussy, France. The original cannery is still going at that location.

U. S. Canning Starts 1818

Knowledge of canning was brought to America from England in 1818, and about the same time, William Underwood, an Englishman, established a cannery in Boston.

However, development of the machinery of the modern cannery was slow. Practically all equipment up to 1870 was crude, cumbersome and inefficient. The first important improvement was the heavy closed retort of autoclave, which made possible the higher temperatures needed for sterilization. This device was the invention of Appert's son.

First attempts to can condensed milk were made by Gail Borden at Torrington, Conn., in 1856. It was the Civil War which gave the necessary impetus to establish the condensed milk industry.

From Appert's original discovery, Paulus pointed out in his talk, there has developed an industry comprising more than 3,500 canneries in the United States alone. More than 400 different food items are now being canned, utilizing annually more than 20 billion cans and jars and adding up to approximately 600 million cases valued at more than two and a-half billion dollars.

Make 400 Cans a Minute

In the beginning, Paulus tells, containers were made by a can maker working with tin shears and soldering iron. A good workman could average about 80 cans a day. Any can company can now make as many as 400 cans per minute, or roughly a half million cans in a three shift day on a single can-making machine.

In the Pacific Northwest, the canned fruit and vegetable industry started in a very humble way about 50 years ago, and has grown until now it numbers about 75 firms operating approximately 100 canneries. The combined output of members of the trade organization known as The Northwest Canners Association, whose members pack 90 per cent of all canned vegetables and fruit in the area, reports 19,077,551 cases of vegetables and 8,740,737 cases of fruit and 528,204 cases of berries packed during the past year, making a total of approximately 679,000,000 cans of food.

Paulus Brothers' own plant, one of the largest in the Pacific Northwest, has 1.7 acres under one cover and here 1,800 people are employed at peak seasons under the plant supervision of Loren Kitchan.



Lyle Graves (right) and Dean Thompson, cookroom foremen, are shown supervising the steam flow, latest in can-closing equipment; it puts syrup in cans, creates a vacuum and seals cans at rate of 228 a minute. (Statesman Farm Photo.)

## Expert Gives Fruit and Nut Tree Advice

Fruit and nut growers should avoid those practices that might result in winter injury, cautions D. L. Rasmussen, Marion County agent. He mentions lack pruning and heavy applications of nitrogen fertilizers as such practices.

The safest policy for all fruit and nut tree growers is to prune after the danger of low winter temperatures has passed, Rasmussen says. To prune before cold weather arrives is to gamble with freezing around pruning wounds. Since weather records show that January has the lowest average temperature in the Willamette Valley, pruning during the fall months is unwise.

The addition of moderate rates of nitrogen fertilizers in the fall will help orchard and caneberry cover crops become established. In the average year, Rasmussen suggested that not more than 30-40 pounds of actual nitrogen per acre be applied in the fall. In view of the drought, growers should use not more than 20-30 pounds actual nitrogen per acre at this late date. Whether this amount helps the cover crop will depend upon soil moisture and temperature during the next few weeks.

Pruning of small fruits should be delayed until late in the winter. Even though red raspberry canes may be back until late winter or early spring, depending upon the grower's preference, old canes can still be removed from trailing berry fields. However, the new canes on the ground should not be pruned.

Strawberry growers will find that plants infested with strawberry crown borer are probably wilting or dead in non-irrigated fields. To reduce insect spread to live plants, it would pay the grower to remove these weak or dead plants and destroy them. After the rains, it will become more difficult to see plants weakened by the larvae of the strawberry crown moth, Rasmussen concludes.

## Bright-Eyed Bees Newest Scientific Idea to Aid Study

Bees with bright-colored eyes may look odd to other bees, but they are helping Entomologist Harry H. Laidlaw, University of California College of Agriculture study inheritance patterns in these insects.

Honey bees normally have black eyes. But mutations sometimes occur in bees to produce such eye colors as red, chartreuse, brown and ivory.

Laidlaw is using these colored eyes as markers to see if the known laws of genetics for other animals also hold true for bees. From this study of inheritance, Laidlaw can set up certain genetic rules aimed at breeding gentler bees that produce more honey. Following this eye color inheritance through generations is much like putting color in a river to see where its waters flow, Laidlaw points out.

## Prune Crop Below First Expectations

Oregon, Washington and Idaho produced approximately 98,900 tons of prunes (fresh basis) in 1952, according to the U. S. crop reporting service in this area. This is somewhat under both the 95,400 tons produced in these three states in 1951, and the average production of 115,500 tons during the past 10-year period.

In western Oregon and western Washington, where the crop is for the most part processed, production totaled 38,300 tons, or 33 per cent under last year and 33 per

cent under average. In western Oregon, the prune crop was somewhat below expectations and there was some loss due to the prolonged September warm spell.

## First Western Oregon Feeder Cattle Sale Set

The first feeder and stock cattle sale to be held in western Oregon, sponsored by the Oregon Cattleman's Association has been set for Nov. 12 at Corvallis. Plans are for 400 to 500 head of steer and heifer calves, yearlings and bred two-year-old heifers to be offered in small lots.

Harry Lindgren, Corvallis, assisting with sales arrangements, reports that "some of the best of the sale offerings will be topped for 4-H club members. These calves, yearlings and bred two-year-old heifers to be offered in small lots."

## New Milk Bill Wins Support Of Jersey Club

Oregon Jersey Cattle Club officials, responsible for development of the "All-Jersey" milk program, have joined forces with the Affiliated Milk Campaign committees in urging adoption of number 332 in the Nov. 4 election.

This bill would bring about reforms in Oregon's milk control law, particularly in removing quota restrictions on dairymen and minimum retail prices on milk. The Affiliated Milk Committee, representing women's organizations throughout the state, contends that if the reform milk law is adopted, it will be possible for retail milk prices to come down without in any way reducing prices to dairy producers.

The spark which led the Jersey producer group to throw its support to the proposed new law was the refusal of the milk control administration to grant quotas to Jersey shippers whose production is needed for the growing "All Jersey" milk in Clackamas County.

The letter was signed by members of the Jersey Club milk committee including Marlin Fox, Molalla, president of the Oregon Jersey Cattle Club; Neil Miller, Woodburn, nominee for the 1953 presidency; John Gale, Canby; Harry Lane, Stratford; Charles Finnegan, Oregon City, and Ralph Smith, Grants Pass.

## Forestry Lab Studies New Wood Uses

Oregon's 1,250,000 acres of lodgepole pine, containing some 800,000,000 board feet of lumber, are finding new uses. At the moment this wood has three major uses, reports Karl Bollerslev, wood technologist at the Oregon Forest Products Laboratory.

These uses are: lumber, pulpwood, and the new use, that of manufacturing hardboards and veneers from the lodgepole. Since lodgepole pine is a small tree, its uses have been somewhat limited. Preliminary studies in the new tests for hardboards and veneer, have produced a lodgepole pine hardboard that is at least equal in strength to Douglas-fir boards. This line is noticeable light colored in board form, including bark in the fiber, hardly changes the hardboard color, Bollerslev reports.

Laboratory research on making lodgepole pine hardboards has been by the dry process method. The waterless method would be more desirable in Eastern and Central Oregon regions where the water supply is limited, than it is here in the Willamette Valley where the tests are being made.

In another exploratory study, the laboratory has tested the peeling characteristics of small log lodgepole pine. Bollerslev found it preferable to heat the logs in boiling water before peeling to satisfactorily soften the hard knots.

A major obstacle in peeling lodgepole pine for veneer is the mechanical difficulty in feeding the lathe with small logs. Lathe-peeled lodgepole pine represents a veneer with a straight-row knot pattern. Either this can be used as a natural veneer design like knotty pine, or the symmetrical-knot row can be clipped out for clear veneers.

While some tests in growing lodgepole pine in the valley are being made, the studies of the new processes have been undertaken at the request of three Bend groups. Similar tests are to be made of white fir, ponderosa pine, hemlock and several hardwood species, including alder.

## Ranch Ramblings

In rambling around among an in the various farms in the valley this week we saw some sheep in excellent condition, and some, which to our notion, were rather poor. We queried some of the shepherds who, we knew, had been taking top prices and top prizes for their lambs and sheep in recent years.

Ewes, they said, should be fed to gain 20 to 25 pounds during the pregnancy period. They will lose that much at lambing time. This does not mean excessive feeding, but enough to keep them in good thrifty condition. Often such gain is possible on good pasture. If pastures are not good, they need to be supplemented with hay and a half pound or more of grain per day. Almost any farm-grown grain can be used. Adequate winter feeding will also insure fleeces without weak spots in the staple.

While we are on this subject of feeding, we recall that one good farmer told us that it was now a good time to check on the feed situation in general, as concentrate and hay prices are lower now than they will be, probably, in mid-winter.

It is, said the farmer, a general practice of good stockmen to store at least a ton of hay for every beef animal, regardless of age. In addition, they will store a few extra tons in case the feeding season in longer than anticipated.

Fifty pounds of silage per head per day will generally get beef cattle through. Where aftermath of seed crops are to be used for wintering, a supplement of protein and possibly some grain will be needed to get satisfactory results.

Grass seed growers planning to use IPC this fall should be keeping one eye on the weather and the other on the calendar, says Hollis Otisway, one of the numerous county agents in the valley. "Holly" hangs out in Salem and serves Marion County. He is a native of the valley, growing up in Clackamas County and later graduating from OSC, so he knows valley conditions.

He goes on to say that this new grassy weed killer is the chemical that largely eliminates annual grasses from perennial grass seed fields. An immediate rain will change the tense situation and fields can be sprayed. On the other hand, a continuation of dry weather may prevent the use of IPC this fall. The deadline for its use has been set at Nov. 1, after which the spray may affect next year's yield seriously.

## Top Egg Lay Planned for Summer-Fall

Most successful poultrymen are now obtaining maximum egg production during the summer and fall months when egg prices are highest, says Noel Bennion, Oregon's topmost poultry specialist.

Bennion points out that for several years, egg prices have started to go up in early June and have gone down in December. This is a reversal of the old trend of high egg prices during the fall-winter period, the poultry specialist said.

Bennion said the shift has stimulated interest in fall-hatched chicks that hit their laying peak in June. Chicks hatched from October 15 to December 15 begin laying in April or May and are in full production with large eggs when prices start up in June.

"These birds will lay well during the summer and early fall months, he said, but will usually slump during the late fall and early winter when they go through a partial molt. However, with good stock and proper care, the molt will be of short duration and birds will soon be back in full production, Bennion explained.

He noted a growing tendency for poultrymen to raise three broods of chicks, during winter, spring and fall months. Such a program keeps the laying houses filled to capacity and brings maximum production when prices are highest.

Annual fall meeting of the Oregon Poultry and Egg Association will be held in Portland at the Mallory Hotel Friday, Oct. 31, Bennion reports. He serves as secretary-treasurer of this association.

The meeting will start at 2 p. m., business will include a vote on two proposed changes in the by-laws and election. The changes provide a different name: Oregon Poultry and Hatchery Federation, and arrange for associate producer members.

Don W. Lyon, manager of the Poultry and Egg national board, Chicago, will be the evening banquet speaker.

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by Warren Goodrich

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