

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 birth-day 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, wars have 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 civilia popula-tion. So Napoleon, in order to give his armies an improved food ra-tion, offered the 12,000 francs for an invention whereby food could be kept over an indefinite period of time. Fifteen years later, Ap-

pert collected. Robert C. Paulus, Paulus 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 eook the food thoroughly, is still the basic principal by which food is preserved. Years later, the experiments of Louis Pastuer 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. Air Chief Food Spoiler

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 dif-ferent lengths of time. Then he set 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 Massy,
France. The original cannery is
still going at that location.
U. S. Canning Starts 1818
Knowledge of canning was
brough to America from England in 1818, and about the same time, William Underwood, an Englisman, 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 auto-clave, which made possible the higher temperatures needed for sterilization. This device was the invention of Appert's son.

First attempts to can con-densed 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 in-

From Appert's original discovery, Paulus pointed out in his talk, there has developed an in-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. Expert Gives

Make 400 Cans a Minute In the beginning, Paulus tells, containers were made by a can maker working with tin shears Fruit and Nut and soldering iron. A good workman could average about 60 cans a day. Any can company can now make as many as 400 cans per minute, or roughly a half mil-lion 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,-\$51 cases of vegetables and 8,-740,757 cases of fruit and 532,204

Paulus Brothers' own plant, one of the largest in the Pacific Northwest, has 5.7 acres under one cover and here 1,800 people are employed at peak seasons under the plant supervision of Loren Kitchen.

Nov. 12 at Corvallis. Plans are for

Harry Lindgren, Corvallis, as-

sisting with sales arrangements,

reports that "some of the best of

calves, yearlings and bred two-year-old heifers to be offered in

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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 Cattle Sale Set inheritance patterns in these in-

The first feeder and stock cattle sale to be held in western Oregon, Honey bees normally have black eyes. But mutations sometimes sponsored by the Oregon Cattleoccur in bees to produce such eye men's Association has been set for colors as red, chartruese, brown 400 to 500 head of steer and heifer calves, yarlings and bred two-year-

Laidlaw is using these colored eyes as markers to see if the old heifers to be offered in small 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. Fol-lowing 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 86,900 tons of prunes (fresh basis) in 1952, according to the U.S. crop report-ing service in this area. This is somewhat under both the 95,400 tons produced in these three rtates in 1951, and the average production of 115,560 tons during

e past 10-year period. In western Oregon and western Vashington, where the crop is for the most part processed, produc-tion totaled 38,300 tons, or 33 per



market the el da et ? dan ? well -

At left (above) Evelyn Johnson is shown setting pears on a peeler (at 59 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 Eshleman (left) and Gay Fabry, both of Salem, are canning "fancy" pears.



dustry comprising more than 3,500 canneries in the United Lyle Graves (right) and Dean Thompson, cookroom foremen, are shown supervising the steam flow, latest in can-closing equipment; a minute. (Statesman Farm Photo.)

Tree Advice

Fruit and nut growers should avoid those practices that might result in winter injury, cautions sociation D. L. Rasmussen, Marjon County 2 p.m. agent. He mentions fall 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 cases of berries packed during the past year, making a total of approximately 679,000,000 cans of 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 cent under average. In western of the drouth, growers should use not more than 20-30 pounds actual nitrogen per acre at this late date. what below expectations and there Whether this amount helps the was some loss due to the prolonged September warm spell. 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 too long, they should not be pruned back until late winter or early spring. Depending up-on the growers' 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 the sale offerings will be topped plants and destroy them. After the for 4-H club members. These rains, it will become more difficult to see plants weakened by the larvae of the strawberry crown moth, Rasmussen conclude

Phone 3-5661

Farm Calendar

Oct. 27-29-40th annual meeting of Oregon Beclamation Congress

Oct. 28-Oregon Milking Shorthorn sale, Albany, 1 p.m. Oct. 31-Nov 9-Grand National Livestock Exposition, Cow Palace. San Francisco.

Oct. 31-Oregon Baby Chick Association, Mallory Hotel, Portland,

Nov. 6-8-Autumn exhibition of Horticultural Society of New York, Essex House, New York City. Nov. 6-8-Congress of American

Horticultural Council, John Bartram Hotel, Philadelphia. Nov. 10-12 - 31st agricultural o-operative Council of Oregon. Multnomah Hotel, Portland.

Nov. 12-Feeder and stock cattle sale, Corvallis, 500 head offered. Sponsored by Western Oregon Cattlemen's Association, Nov. 13-15-57th Oregon Wool-

growers Association, Imperial Hoel, Portland. Nev. 13-Oregon Swine Growers innual meet, Senator Hotel, Sa-

Nov. 15 - Marion County Corn show, Central Howell School, aftrnoon and evening.

eau Federation, Baker. Nov. 20-21-67th annual Oregon State Horticultural convention, Memorial Union Building, OSC. Nov. 22 - Clackamas County

Nov. 18-21 - Oregon Farm Bu-

Corn Show, Canby.
Nev. 28 — Oregon Turkey Improvement Association, Salem 7:30

Nov. 28-29-Oregon State Corn Show, Albany High School. Dec. 2-5-11th Pacific Coas Turkey Exhibit, McMinnville Ar-

Dec. 3 - Marion County Dairy Breeders Association, Silverton, 10 Dec. 3 - Marion County Live-

stock Association annual meeting Waldo Hills Community Hall,

Dec. 4-6-Oregon Wheat Growers League annual meeting, Mult- lem.

Wins Support Of Jersey Club

New Milk Bill

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

This bill would bring about re-

forms 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 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 Jersey men stated further, in a letter which went out this

week to all Jersey breeders in the state, that their market had been taken away by "regulations that have limited the fat control of bottle milk and popularized the lowtest breeds by discriminatory payout methods that make it extremely difficult for the All-Jersey program to progress in Oregon."

The letter was signed by members of the Jersey Club milk com-mittee including Marlin Fox, Mol-alla, president of the Oregon Jersey Cattle Club; Neil Miller, Woodburn, nominee for the 1953 presidency; John Gale, Canby; Harry Lane, Strafford; 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 reports Karl Bollerslev, wood technologis: at th Oregon Forest P-oducts Laboratory.

These uses are: lumber, pulp-wood, and the new use, that of manufacturin; 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 lodegpole pine hardboards has been by the dry process method. The wateriess 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 satisfac-torily 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 Either this can be used as a natcan be clipped out for clear ve-

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 m.de of white fir, ponderosa pine, hemlock and several hardwood species, including alder.

nomah Hotel, Portland. Dec. 4-5-Oregon Nut Growers Society, annual meeting, place not yet announced.

Dec. 7-10-National Wool Growers convention, Chicago. Dec. 8-10-Oregon Seed Growers League, annual meeting, Mult-

nomah Hotel, Portland. Dec. 10-11-Third annual Oregon Rural Health Conference, Sa-

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from Salem J. L. WELLS, Agent

Ranch Ramblings

In rambling around among an of around 1½ tons per acre averbetween the various farms in the aged production costs of about 18 valley this week /e saw some sheep in excellent condition, and some, which to our notion, were have increased their production rather poor. We queried some of per acre. the sheepmen who, we knew, had been taking top prices and top Northwest variety has been gainprizes for their lambs and sheep ing. Because it blooms later than

Ewes, they said, should be fed to gain 20 to 25 pounds during the pregnancy period. They will lose Elwood Faist, Canby grower, 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 without in any way reducing 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

> 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 re-

ing one eye on the weather and sociation holding the price so high the other on the calendar, says that apples were piling up in the list of the numerous county agents in the valley.

Sociation holding the price so high members.

Don W. Lyon, manager of the poultry and Egg national board, Chicago, will be the evening bannative of the valley, growing up in Clackamas County and later graduating from OSC, so he knows eaten these "chilled" apples, the

grasses from perennial grass seed but we didn't take time out to fields. An immediate rain will chill them while we were there. change the tense situation and fields can be sprayed. On the other hand, a continuation of dry bushel box, its use has been set at Nov. 1, after which the spray may effect next year's yield seriously.

The Ranch Rambler was rather interested in strawberry situations this fall. As we have mentioned earlier, the low price this past year has not discouraged strawberry growers in the valley. It has, however, made them a bit more thoughtful. Oregon, in recent years has supplied about 11 per cent of the strawberries produced in the nation. California, with its varieties selected for high acre production, now supplies 23 per cent.

We note also that Oregon's average production is comparable to Michigan's, higher than that of Arkansas, and lower than Washington's and California's. Prices to farmers for 1952, show Oregon farmers receiving less per pound than growers in Michigan, Arkansas and California. Labor and material costs hit new highs in 1952. Oregon growers with yields

FISHER NAMED "CATTLEMAN"

Walter H. Fisher, Polled Hereford breeder, has been named the Clackamas County nominee in the 1952 "Oregon Cattleman of the with a straight-row knot pattern. Year" contest, reports Nat Etzel, Canby, president of the Clackamas ural veneer design like knotty County Livestock Association. pine, or the symmetrical-knot row Fisher's Hereford ranch is one of the show places, just south of Oregon City.

> with meteors, but is a study of atmospheric conditions, both words stemming from a Greek word meaning "anything in the air."

Meteorology has nothing to do

The same of the sa

Elwood Faist, Canby grower, lost his crop of Marshalls to frost this past season, but harvested an excellent yield of Northwest plant-

ed alongside of the Marshalls. The Northwest produces well, but is reported to be harder to that hit their laying peak in June.

One beverage company advertises that "It's the Water". Now the dairy folk are think-ing of publicizing that "It's the pasture". Whatever it is, Oregon cows are certainly making productions: S. B. Hall, known to all Willamette Vatley dairymen, has a registered Holstein-Frie-sian cow which made 530 pounds of butterfat, 12,089 pounds of 4.4 per cent milk in 365 days, twotimes daily milkings at the age of 4½ years. But the Cherrys, (Helen and Harold, Salem) have ow that has beaten that record.

Her name is Miss Veeman Homestead who made 605 pounds of butterfat in 13,597 pounds of 4.5 per cent milk at two years on twice-daily milk-

We made a hurried trip to Yak-ima, Wash., Saturday night, coming back Sunday, and were amazed at the trees just loaded with apget satisfactory results.

It is trees just loaded with apples. The crop is excellent, and the price seems to be good, too.

Grass seed growers planning to In fact, there was some off-the-poultry and Hatchery Federation. use IPC this fall should be keep- record complaining about the as- and arrange for associate producer "Holly" hangs out in Salem and Beautys and the Winesaps. Yaki- quet speaker. serves Marion County. He is a ma folk were keeping a few natives up there told us, you'd He goes on to say that this new just never eat an ordinary apple grassy weed killer is the chemical at room-run temperature. We that largely eliminates annual managed to down quite a few,

We noted some apples, in the orchards, were selling at \$3 a weather may prevent the use of sorted ones-the big Red Delicious IPC this fall. The deadline for -were bringing \$4 a bushel box.

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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 high-est, says Noel Bennion, Oregon's topmost poultry specialist. Marshalls, it is receiving consid-

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 esg prices during the fall-winter period the poultry specialist said.

Bennion said the shift has stimu-later interest in fall-hatched chicks pick and is subject to red stele Chicks hatched from October 15 to root rot.

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 par-tial 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 Ore-

gon Baby Chick 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-Poultry and Hatchery Federation,

Tele-fun by Warren Goodrich



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