

SELLING SALEM DISTRICT

OWPCO

Broom handles, mop handles, paper plugs, tent toggles, all kinds of hardwood handles, manufactured by the

Oregon Wood Products Co.
West Salem

BUY AN OVERLAND
And Realize the Difference

Vick Bros.
QUALITY CARS
HIGH ST. AT TRADE

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

Loganberries, October 4.
Prunes, October 11.
Dairying, October 13.
Flax, October 25.
Filberts, November 1.
Walnuts, November 3.
Strawberries, November 15.
Apples, November 22.
Raspberries, November 29.
Mint, December 6.
Great cows, etc., December 13.
Blackberries, December 20.
Cherries, December 27.
Pears, January 3, 1924.
Gooseberries, January 10.
Corn, January 17.
Celery, January 24.
Spinach, etc., January 31.
Onions, etc., February 7.
Potatoes, etc., February 14.
Bees, February 21.
Poultry and pet stock Feb. 28.
Goats, March 6.
Beans, etc., March 13.
Paved highways, March 20.
Broccoli, etc., March 27.
Silos, etc., April 3.
Legumes, April 10.
Asparagus, etc., April 17.
Grapes, etc., April 24.

Drug garden, May 1.
Sugar beets, sorghum, etc., May 8.
Water powers, May 15.
Irrigation, May 22.
Mining, May 29.
Land, irrigation, etc., June 5.
Dehydration, June 12.
Hops, cabbage, etc., June 19.
Wholesaling and jobbing, June 26.
Cucumbers, etc., July 3.
Hogs, July 10.
City beautiful, etc., July 17.
Schools, etc., July 24.
Sheep, July 31.
National advertising, Aug. 7.
Seeds, etc., August 14.
Livestock, August 21.
Automotive industry, Aug. 28.
Grain and grain products, September 4.
Manufacturing, September 11.
Woodworking, etc., Sept. 18.
Paper mills, etc., Sept. 25.
(Back copies of the Thursday editions of the Daily Oregon Statesman are on hand. They are for sale at 10 cents each, mailed to any address. Current copies, 5c.)

NOW FOR POTATO STARCH FACTORIES

Salem ought to have a potato starch factory—
Then many potato starch factories—
And potato flour and dextrine factories—
Or factories, large and small, making all the commercial products that are founded on the starch in the potato.
Our potatoes are right—
This is potentially the greatest potato country on earth.
The potato starch and flour and dextrine factories will use the culls—
Will turn a waste into a valuable product.
For these factories, potatoes must be grown on land without irrigation.
We have the land; great stretches of it.
Let's have the factories.

Valley Motor Co

260 North High Street.

Phone 1995

Boost This Community
by Advertising on the Slogan
Pages

DID YOU KNOW that Salem is the dehydration center of the world; that dehydration is the biggest and most important thing in the world in food conservation and preservation; that this district has a peculiar advantage in the production of seed potatoes; that our soil and climate revitalize potatoes—even from seed that has "run out" in other sections; that this will make ours a great potato country, and that this must lead to the building here of many and great factories to manufacture potato starch, potato flour and dextrine; that the knowledge and experience are now here in Oregon to do this; one factory now here; that these factories will use the cull potatoes; that they will turn to great profit a product otherwise largely waste; that there is scarcely any limit to the possibilities in this field?

WEATHERLY ICE CREAM

Sold Everywhere

Buttercup Ice Cream Co.

P. M. GREGORY, Mgr.

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SALEM

DODGE BROS.

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VALLEY PACKING CO. CASCADE BRAND HAMS, BACON AND LARD

U. S. Inspected

SALEM, OREGON

dried at 145 to 150 degrees.
Peaches are halved and then sulfured, either peeled or unpeeled. 15 to 45 minutes and dried at 145 to 150 degrees.
Pears are halved, then sulfured, peeled or unpeeled 15 to 25 minutes and dried 135 to 145 degrees.
Fruits are dipped in lye, then washed and dried at 150 to 160 degrees.
Strawberries are sulfured, then rimmed and soaked in heavy sulfur solution, and dried at 150 to 160 degrees.
When thoroughly dried and cooled, all dried products are carefully sorted and stored either in glass jars or rslip top containers. If the dried product is left exposed for any length of time, it may become infested by worms from the Indian meal or other moth.

MUST FIGHT THE ELM LEAF BEETLE

Lead Arsenate Spray Will Hold Hordes in Check, But We Must Hurry

Control of the elm leaf beetle, now almost ready to launch a heavy attack on the elm trees of town and country, calls for quick action, says Don C. Mote of the O.A.C. experiment station. Spraying with a solution of 3 to 5 pounds lead arsenate paste to 50 gallons of water is needed in the next few days.

The light yellow eggs laid by the overwintering females are already on the underside of the leaves. Many are still further along and have hatched into tiny yellow or brownish grubs with black heads, and the results of their feeding are already apparent. These grubs mature in 15 to 20 days, and if they are to be killed before they pupate it must be done within that time.

Great care is necessary to get the spray on the under side of the leaves, as it is here the grubs feed.
County agents, civic bodies or other organizations that conducted campaigns in former years are advised to prepare at once for the present campaign.

SALEM MUST CONTINUE TO BE THE DEHYDRATION CENTER OF THE WORLD

We Must Have Potato Starch and Potato Flour and Dextrine Factories, in Addition to Fruit and Vegetable Dehydrating and Drying Concerns—Dehydration Is One of the Biggest Things in the World in Fruit Conservation and Preservation

The Slogan editor has been for several years proclaiming Salem as the dehydration center of the world. This was because the largest commercial dehydration plant in the world, as applied to numerous patented processes making a superior article for the general markets, is located here, the property of the King's Food Products company.

This company employed more than a thousand people at one time in 1922, in its Salem plant, and nearly that many during the whole season, running from early spring till the Christmas holidays; and its plans contemplated the employment here of at least 2500 people each year.

The Salem plant of this company was operated on a large scale last year, though not turning out the volume of the year before.

This company has been in financial difficulties of late, and their Salem plant has not yet opened for the 1924 season. The plant is here, however, in splendid condition, and having a great capacity and a great opportunity for usefulness and profit. And efforts are now being made to place the plant on an operating basis, with substantial backing. Every one with a stake of any kind in Salem and the Salem district wishes that these efforts may result in a successful consummation.

Anyway, the plant is here—a property that has cost several hundred thousand dollars; a plant that takes a most important place in the commercial prosperity and advancement of this city and the surrounding country; and surely it will remain intact and become what it was designed to be—one of the most important helps we have in marketing our fruits and vegetables.

There Are Many Others
But dehydration in the Salem district is not confined to the King's plant. We have the largest

est prune dryer on the coast in West Salem. We have a number of other commercial fruit dryers. And practically every prune grower has a dehydration plant in his prune dryer. There are hundreds of them in this district. Some of these are thoroughly up to date, using fans propelled by power for circulating the air; something after the style of modern dehydration as practiced by the King's people under their patented methods.

There is an article in this issue from the expert in this line at the Oregon Agricultural college, that takes in the processes and methods beginning with the small family plant. There must be more dehydration here. This is one of the methods of food preservation and conservation and marketing that needs continual expansion; that must have such expansion, in order to develop our great fruit and vegetable growing industries as they must be developed, for a well rounded and solid prosperity.

Potato Starch Factories, Too
And we must have potato starch factories, too, and factories making potato flour and dextrine. The manufacturing of potato flour and starch is a form of dehydration. That the manufacturing of potato starch and other articles would be a practical and profitable line here, and that it might be extended almost indefinitely, is well illustrated by the plant at Gresham, Multnomah county, near Portland, concerning which the Slogan editor recently wrote as follows:

"A Potato Starch Factory
"Down at Gresham there is a potato starch factory that is headed towards becoming a great institution; a profitable thing for its owners and a great help to our potato growers. The factory is owned by a close corporation; three men who believe in their product and understand how to make it, and have no stock for sale. They are building up their factory from the sales of their products, selling mainly to the big bakeries of Portland, for which trade they have not so far been able to make enough starch. The concern also makes a lot of by-products of starch, including even the finest kind of face powder—
"Taking the lowly spud and turning it into an element that is fit for use in enhancing the beauty of the finest lady in all our fair land of fair ladies.
"The Statesman has referred to this potato factory before, and expects to refer to it with more particulars as to its processes in the near future.
"Prof. L. S. Ellerman, the moving spirit of the Gresham factory, received his early education in chemistry and the industries connected with starch manufacturing in Europe, and part of his machinery used here in Oregon was made in Germany, in which country potatoes form a very large part of their industrial systems, from the making of alcohol for the running of stationary engines to the turning out of a large number of the finer things of commerce used all over the world—

"But the particular thing that the writer wishes to get over to the reader is the fact that Salem might be made a potato flour and starch and dextrine center.
"Why?
"Because we have here in the Salem district a large acreage of land on which good potato starch potatoes may be raised. This is true of all the beaverdam land on which we produce the greatest part of our potato tonnage; 350 to 400 car loads annually—
"And most of the sandy land of the Santiam bottoms.
"Potatoes grown on irrigated land are not good for starch.
"Potato starch is protected by duty of a cent and three quarters a pound; other starches by only a cent a pound. And dextrine, made from potato starch or flour, has a protective duty of two and a quarter cents a pound, and potato flour two and a half cents a pound.
"Potato flour has a very large sale in European countries, and

a great market for this flour could be built up in this country, with the demands of recent immigrants for a foundation.
"Here is a real field for the building up here in Salem of an immense industry; one interfering in no way with any other industry, and helping them all. Why not? Needed, a man with vision. The capital requirements would not be very great. The potato starch and dextrine and flour, industry could be made profitable from the first; and it could be made to grow from its own profits; from the inside out."
Plans have already been made looking to the building of potato starch factories here in Salem. This matter must not be allowed to drop or lag.
It has immense promise—more than most of us have dreamed of. "This reader is referred to the article of Prof. Ellerman in this issue. He is the man at the head of the factory at Gresham.

FACTS AND RECOMMENDATIONS ON DEHYDRATION FROM A SCIENTIFIC STANDPOINT, BY ONE WHO KNOWS

Food Preservation Discussed by a Man Who Has Made a Life Study of the Problems That are Involved—Dehydration Saves in Transportation Charges; in Making for Minimum Storage Space; in Saving Products That Would Otherwise Be Wasted

Editor Statesman:—
Fruits and vegetables of all kinds are susceptible to decay, fermentation and moulding. This is caused by the fact that they contain sugars and moisture; ideal material for all kinds of bacteria and fermentation. For this reason it was long ago found necessary to adopt some means of preserving them when they were to be kept for food, for any great length of time.

There are various ways of accomplishing this, the main ones being: Cold storage, which retards the growth of bacterial action; preserving chemicals of different kinds, which either kill or retard bacteria growth; canning, which makes use of heat to kill all bacteria present in the product and then sealing to keep out others present in the air; Dehydration, which takes away one of the vital constituents necessary to bacterial growth.

Cold Storage—Because it simply retards the growth of bacteria does not fill the great need. Food products when taken from cold storage are more susceptible to the action of bacteria than they were before.
Preserving Chemicals—Without exception exert detrimental and physiological action on the person eating the preserved foods.
Canning—Produces chemical changes within the food, as the heat used cooks same and the product is no longer like the fresh.
Dehydration Is Best
Dehydration—When properly carried on is the only method of food preservation that does not chemically change the product, and will allow same to be left in the open air without deterioration.
Ferments, Moulds and Bacteria—Must have water in order to produce the chemical changes that make food unfit for use. Once the water is removed food can be kept indefinitely with the assurance that it will not spoil.
Dehydration—then, acts up as

without in any way disturbing the chemical compound. This also must be accomplished without disrupting the cell walls, for if these are broken they no longer have the power to reabsorb moisture and thus come back to their original share. There must be some free moisture however left within the cells, or the walls would shrink so closely together that they would not separate again when the product was refreshed. Then, again, if all moisture were removed there would be chemical changes within the cell, which is to be avoided. With this knowledge we are in a position to determine the amount of moisture to leave in the product. This has been worked out fairly definitely and it is found that from 8 to 10 per cent should remain in vegetables and from 10 to 22 per cent in fruits.

What It Does Not Mean
Dehydration, then, it is to be emphasized, does not mean desiccation; does not involve the removal of every vestige of water until the residue is truly dry in the chemical sense. The moisture left is sufficient to maintain the characteristic structure so that after soaking and cooking the dried fruit or vegetable looks and tastes like the fresh product. However, sufficient water is removed to prevent a base for bacterial growth.

How Is It Done
There are several ways that water can be removed from food products, but the most efficient, on a commercial scale, is by making use of warm air in motion. Warm dry air has a great affinity for the absorption of moisture as evidenced by the rapid drying of the sprinkled streets on a summer day. This power is greatly increased if the air is kept in motion, for then the moisture laden air in contact with the material is carried away. The air is heated in order to reduce the per cent of humidity. To illustrate this: Air 100 per cent humidity and 70 degrees F., may be heated to 170 degrees and its humidity will be reduced below 9 per cent. This air will be very much more dried than is ever found in nature and will absorb moisture very rapidly indeed. The warmer the air the more moisture it can carry. Or, again, if saturated air at 70 degrees F., has its temperature increased only 10 degrees to 80 degrees F., it will then be able to absorb twice the weight of water it held before. Its humidity will be less than 50 per cent and it will be as dry as air on a sunshiny summer day.
However, if air at too high a temperature is used for removing the moisture from fruits and vegetables the product would be ruined; sugars within the cells will caramelize; the essential oils and flavor will volatilize and be lost, also there will be other harmful chemical changes.
It is found that temperatures

above 150 degrees F., would be harmful in drying fruits and vegetables, but that a temperature of from 140 to 155 degrees F. should be maintained. Approximately 1000 heat units are required for the evaporation of each pound of water contained in the product; a second unknown quantity is required to overcome the attraction between the product and the water; this attraction is known as hygroscopicity.
In the operation of drying objects in the air the time required increases rapidly as the air is more nearly saturated and the products to be dried are, of course, never any drier than the air which was last in contact with them and which is therefore, approaching its saturation point on account of the added moisture from the product. Moreover, the evaporation of the moisture in the product produces a lowering of the temperature and this in turn lowers the carrying power of the air a definite amount.
As to determination of the heat and volume of air required; the maximum air velocity permissible without doing injury to the structure of the material; the relative humidity permissible to avoid fermentation, discoloration, case-hardening, etc., this knowledge must be attained by continuous experimenting and experience.
Theoretical Ideal Drying Conditions
The following ideals may probably never be realized in practice, but by approaching them we will have made a big step in the new science of dehydration.
The first object is to supply the required heat to evaporate the moisture. Second: Supplying this heat and producing evaporation under such conditions as will leave the product in the best possible condition when dry. To do this

minimum storage space.
Utilization of under-sized products which would otherwise be wasted.
It may appear to be a simple matter to remove water from a product, but such is not the case. The drying of any material has its many complex difficulties, but especially is this true in removing water from fruits and vegetables. In order to successfully accomplish the desired results a knowledge of the product is necessary.
Structure of Fruits and Vegetables
All fruits and vegetables are made up of tiny compartments called cells. These differ merely in detail and structure according to their function, but they are always compartments of some sort. The walls of these compartments are composed of a firm, elastic, transparent substance called cellulose. The function of the cell wall is to give mechanical support to the contents of the cell; it acts then as a skeleton for the cell. These cell walls allow ready passage of water, but where that would be dangerous, as at the surface, the wall is made water proof by the formation all through its texture of a water repelling substance called cutin or suberin. Such is the case in the epidermis which forms the skin of all fruits and vegetables.
The cells themselves are filled with water, sugars, starch, vegetables and fruit acids, together with numerous other chemical constituents which go to make up the fruit or vegetable. Of these constituents water is by far the greater; cells containing from 75 to 95 percent depending on the fruit or vegetable.
What Dehydration Means
It is the aim of Dehydration to remove this water from the cells

several factors; namely, temperature, relative humidity, circulation and rate of drying must be controlled and correlated. The variations are (Continued on page 10)

Auto Electric Work
R. D. BARTON
171 S. Commercial St.

Hotel Marion
SALEM, OREGON
The Largest and Most Complete Hostelry in Oregon Out of Portland

DRAGER FRUIT COMPANY
Dried Fruit Packers
221 South High St.
Salem, Oregon
Always in the market for dried fruits of all kinds

BLAESING GRANITE CO.
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CITY VIEW CEMENT CO.
SALEM, OREGON

Licensed Lady Embalmer to care for women and children is a necessity in all funeral homes. We are the only ones furnishing such service.
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770 Commercial St.
Phone 724 Salem, Oregon

Now Is the Time!!
To look after your heating plant and see that it is in good order, or if you are going to need a new one, this is the appropriate time to buy it!
Theo M. Barr
164 S. Com'l St.

Salem must have many and great potato starch, flour and dextrine factories.

Manuals, School Helps and Supplies
Your order will be given PROMPT attention—
The J. J. Kraps Company
Kent S. Kraps, Mgr.
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Salem, Oregon

Our Trees
Carefully Grown—Carefully Selected—Carefully Packed Will Give Satisfaction to the Planter
Salem Nursery Company
428 Oregon Building
PHONE 1763
Additional Salesmen Wanted

Next Week's Slogan SUBJECT IS HOPS, CABBAGE AND OTHER THINGS



GIVE US A List of Your Lumber Requirements.
Build Now
Our Prices are Right
FALLS CITY-SALEM LUMBER CO.
340 So. 12th Near S.P. Depot
A. B. Kelsay, Mgr.

PIPE

Road, well, sewer, and drain pipe in stock at all times. Get your pipe where you can see how good it is made.

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