SELLING SALEM DISTRICT

Dates of Slogans in Daily Statesman

(In Twice-a-Week Statesman Following Day)

Loganberries, October 4.
Prunes, October 11.
Dairying, October 18.
Flax, October 25.
Filberts, November 1.
Walnuts, November 8.
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.)

RAISE MORE GRAIN; FEED MORE TO HENS AND HOGS

The Salem district will never raise too much grain—if the growers will feed a large enough proportion of the wheat to the hens and hogs—

And they will always have a good sale for their milling oats; for they can raise the best grown in the world.

They cannot raise too much corn, either, for silage, and for the hens and hogs.

They should raise better wheat and better oats, on the average, in which case they will grow more to the acre, and get higher prices, thus making the growing more profitable.

This is a good grain country, and it will always grow grain, especially in rotation schemes carried on intelligently.

DID YOU KNOW That the Willamette valley produces the best oats in the world, for milling purposes, and the heaviest oats in the world to the bushel or sack measure; that the great breakfast food manufacturers of the east know this, and would pay still better prices to our farmers if they would organize and improve the quality still more; that this section ought to raise more wheat, too, and more barley and rye, always in rotation with clover and corn and other crops; that there ought to be more general selection of seed, and more drainage practiced, and more tiling; that Salem is now a good grain market, and ought to be a much better and bigger grain market?

THE ADAPTABILITY OF MARION AND POLK COUNTIES TO THE DAIRY INDUSTRY

The Importance of Good Cows Made Very Plain—The Points Stressed for Profitable Butter Fat Yield, Better Cows and Better Feeds, Are Within the Dairyman's Control, and They Will No Doubt Be More Generally Observed After Reading the Following

Editor Statesman:—

The average observer probably will take for granted that that part of the Willamette valley included in Polk and Marion counties is unusually well adapted to dairying without giving any particular attention to the facts. A study of the facts with reference to the production of these two counties may be worth while.

These two counties have a combined population of 61,298 according to the last census. If we assume the average consumption of dairy products per capita there is an annual exportable surplus of about 725,000 pounds of butterfat. This means that while there is a lot of consumption in the immediate center of Marion county, yet the combined areas actually produce a surplus of dairy products. What does this mean? Where is this surplus sold? These questions and others closely related to them naturally occur to the reader and they really have a significant bearing on the development in these counties.

This surplus must be shipped away from home. It must go at least as far as Portland and maybe to Seattle or San Francisco. When it goes to any of these places in the form of butter, chees or condensed milk, it competes with the production of the whole Pacific slope country. To be able to compete with these other sections successfully the farmers of Polk and Marion counties must keep down their cost of production.

The Cost of Production

The average annual production per cow in Polk county was 168 pounds of fat, while in Marion county it was 163 pounds of fat. Cost of production studies indicate that a cow should produce about 240 pounds of fat a year to break even. This means that there are a whole lot of cows in this region that are far below the average for the territory, for it is a well known fact that there are many good cows in these counties. However that counts in an economic way.

It is a generally accepted fact that one cannot produce economically and not feed legume hay liberally. Census reports show that Polk county produces only one-third as much legume hay and Marion county one-half as much as is needed to feed the cows properly. Again, both counties fall far short of producing as much succulence as they need, Polk county being much better off than Marion in that respect.

This means that there is a reason for the poor production per cow in addition to the matter of inheritance. Ther are hundreds of cows in Oregon that are classed as money losers because they are improperly fed and not because they are by inheritance poor producers.

It is clear that before surplus products can be shipped to a distance and sold at a satisfactory price in keen competition, that some further attention must be given to cutting production costs in Polk and Marion counties.

The poor cow should be weeded out but at the same time they should be given a chance to do their best. Before that can be done the acreage of leguminous hays and of succulent crops must be greatly increased.

—P. M. BRANDT.

Corvallis, Orc.,
Aug. 21, 1924.

(Prof. Brandt is professor of dairy husbandry at the Oregon Agricultural college. In connection with the above, the interested reader will find the following article valuable.—Ed.)

The Importance of Good Cows

Editor Statesman:—

Farm management and cost of production surveys all over the country have shown that the production per cow is the most important single item in the dairyman's business. The reasons for this are quite obvious:

First, it takes no more stable room for a good cow that for a poor one.

Second, takes little, if any, more storage room for feed for the good cow.

Third, it takes little, if any, more labor to care for the good cow.

Fourth, it costs little, if any, more to feed the good cow.

What constitutes a good cow? First, I would say she must pay a reasonable charge for her feed. According to OAC Extension Bulletin 371, the average cost of feed for the three years from 1920 to 1923 inclusive on 3657 cows was $112. At 40 cents per pound fat it would take 280 pounds of fat to pay for the feed. Those years were somewhat abnormal as to feed prices, so undoubtedly the figures are a little high, but we are safe in saying that under normal conditions it takes about $100 to feed a cow or a production of 250 pounds of fat at 40 cents a pound.

Production above 250 pounds of fat begins to pay for the labor. According to the same authority, the average cost of labor per cow was $56.41. It would require another 141 pounds of fat to pay for this labor or a total of about 400 pounds of fat to pay for feed and reasonable charges for labor.

We have not taken the skim milk, calf, or manure into account in this reckoning. Neither have we charged the cow with interest on investment, service fees, etc. The survey shows that after these charges are deducted there is about $18 credit due the cow. We can therefore reduce her required production by 45 pounds of fat leaving a net required production of 355 pounds of fat in order to be profitable.

How to Attain This

How can the dairyman attain this production?

First, he must keep individual records. The cow testing association method of weighing and testing one day each month is good. Second, he must apply these records in weeding out the low producers. Third, he must breed to the best bull possible and raise calves from the high producers. Fourth, he must buy feeds wisely to balance his home grown feeds. For example, assume a 20 cow herd. Records show the following figures:

Cows		Production lbs fat	Value @ 40c	Cost of feed	Returns over feed
5@400	lbs.	2000	$800	$500	$300
5@300	lbs.	1500	600	500	100
5@250	lbs.	1250	500	500	....
5@200	lbs.	1000	400	500	-100
5@200	lbs.	1000	400	500	100
Total		5750	$2300	$2000	$ 300

If the owner of these cows would sell the last group of five he would have $100 more left at the end of the year and $500 worth of feed to dispose of. He might also sell the next group of five, in which case he would have another $500 worth of feed on hand. Unless he could buy better cows than this, however, he might be justified in keeping them, breeding them to a good sire, and raising their daughters which would be better than the dams. In two or three years he would have heifers coming on to replace them and could sell them then.

By a careful application of this method for a few years he will be able to bring his production up to a profitable basis.

—ROY C. JONES,
Oregon Experiment Station.
Corvallis, Ore.,
Aug. 20, 1924.

POTATO AND CORN STARCH COMPARED

Of Interest Here, Where an Attempt Will be Made to Get a Factory.

(The August number of the Textile American of Boston, one of the leading magazines in its class, printed an article on "Potato and Corn Starches," and as an attempt is soon to be made to secure a potato starch and flour and dextrine and specialty factory in Salem, the subject is of interest here. Some of the matter is outlined as too technical for any but experts in the woolen and cotton and other textile mills, but the following will be understood by laymen:)

Farina or potato starch, is the most used, if the price is right, in finishing and starching. It is obtained from the tuber of the potato plant (solomum tuberosum.) The potato consists largely of starch and water, fully 75 per cent of the latter substance being present in the average sample. Under careful cultivation the potato may be got to yield about 20 per cent of starch as shown in the following analysis:

Nitrogenous matter	2.50
Starch	20.00
Cellulose	1.04
Sugar and gum	1.09
Fats and oils	0.11
Potatoes and other salts	1.26
Water	74.00
	100.00

To extract the starch the potato is beaten up to a pulp in a cutting machine in a stream of water. This carries the pulp on to a fine sieve. The starch granules and soluble contents are carried through; the cellulose and fibre remain behind. The starchy water is run into tanks and allowed to settle. The clear water is run off and fresh water run in and the starch stirred up. It is again allowed to settle and the clear water is run off, and the starch dried at a temperature of about 60° F. Farina or potato starch is of good white color, brightly glistening appearance and perior to any other starch. It's avcrisp feel. In this respect it is suerage composition is shown in the following analysis:

Water	17.20
Cellulose	0.44
Ash	0.25
Starch	82.11
	100.00

Farina produces a thicker paste than any other starch and it therefore has further binding properties.It also yields a much more transparent and viscid mass when boiled with solutions of caustic soda than other starches. The paste thus obtained has rather stronger binding properties than plain farina paste, and is therefore largely used whenever the cloths have to be weighed very heavily with china clay and so forth.

Size made from potato starch will not stand prolonged boiling. Under this treatment it quickly loses its adhesiveness. Unfortunately it is impossible to ascertain, by any simple test the amount of loss of strength, and consequently size left overnight is either thrown away or more potato starch must be added to approximately make up the loss.

This objectionable feature has been overcome to a great extent by treating potato size with caustic soda. By experiments in the laboratory it was found that potato starch treated with this alkali would keep its adhesiveness for a considerable length of time.

These caustic alkalis have a peculiar action on starch. If starch be boiled with water containing only one-half per cent of caustic soda, a paste is formed which is much thicker and very much more adhesive, than if boiled in water alone. A higher percentage of the alkali produces a still greater adhesiveness. These substances also tend to prevent the decomposition of the starch paste, especially the potato starch paste; the acids which are formed by this decomposition, are instantly neutralized by this alkali. This has the effect of preventing mildew to a great extent, why caustic soda prevents the decomposition of potato starch is unknown; whether it be due to the actual combination of the alkali with the starch compound, or whether it be due to the alkali retarding the formation of organic acids produced by bacterial action, or whether by its presence in the caustic state, it prevents bacterial action the writer is not prepared to say, but the whole of these conditions play part in it. In the summer it is necessary to add a greater percentage of caustic soda, especially where the size is standing over the week-end. This is more particularly the case during close and thundery weather, under such conditions the acid is developed quickly and unless an extra quantity of alkali be added, the acid may be sufficient to entirely neutralize the caustic soda present, and a loss of strength on boiling up will result. The alkali requires using in an intelligent manner to get the best results.

Caustic soda has now come into general use for sizing purposes, at least so far as potato starch sizing is concerned. Potato starch is used chiefly for pure and light sizing although it may be used in conjunction with sago and cornstarch for the heaviest sized goods. In pure sizing potato gives a smoothness and pliability to the goods which is not excelled by any other starch.

Potato starch may be used without the addition of any other starch, for heavily picked goods if the best qualities are selected, but, as has been previously stated, there is a marked tendency for potato starch to lose its strength, both when mixed in the size box, and afterwards (on the weavers looms and elsewhere.) In the case of heavily picked goods, this is always so, and there is in consequence the ever present danger of the yarn becoming "soft" before it is woven out.

In order to restrain this tendency to softening it is advisable to use a mixture of sago and "Potato" for all heavily picked goods or, if potato is used alone, ¼ to ½ per cent of solid caustic soda should be added to the weight of starch employed. The alkali should be dissolved in the water, and the potato starch afterwards mixed with it.

A NEW EXPLOSIVE FOR USE ON FARMS

(Continued from page 8)

850, Leroy Childs and C. W. Daigh; Tillamook, 49,400, W. D. Fine; Yamhill, 20,600, U. S. National Bank of Newberg, 23,800 McMinnville National Bank; Benton, 40,350, C. R. Briggs; Multnomah, 36,800, S. B. Hall; Lane, 30,250, Lane County Farmers' Union; Josephine, 24,150, H. B. Howell; Douglas, 20,900, B. W. Cooney.

Value of Lime

The young clover and grass in the limed plots of the experiment stations passed more successfully through the recent dry season than the unlimed plots, says R. E. Stephenson of the experiment station. The scientific explanation of this is that the lime makes the soils more mellow or that it provides a means of allowing the soil to hold more moisture. In such a season as the last this is an important feature of crop farming.

VETCH AND BARLEY OR OATS VERY FINE

Combination Outyields Corn; Worth of a Pig; Poultry and Other Notes.

(Following farm reminders are contained in a current bulletin of the Oregon Agricultural college:)

More vetch and oats or barley on heavy, rather poorly drained soils of western Oregon dairy farms would pay well for silage. The combination outyields corn nearly two to one and almost equals sunflower in yield while far surpassing it in palatability. The average yield of vetch and oats on the experiment station heavy lands from 1914 to 1921 was12.7 tons per acre.

Anyone wishing to buy or sell a pig at weaning time and lacking information on which to base the price may safely put it at nearly one-third of the market value of a 200 pound pig. This relation of cost of weanling to cost of market animal in Oregon was arrived at through many surveys and studies by the experiment station animal husbandry department. The actual cost of producing the pig depends mainly on the size of the litter, but 30 per cent of the value of the 200 pound pig has been found to be a fair valuation of the weanling.

Poultry flocks with free range conditions on clean soil in western Oregon are just about free from disease and generally quite vigorous. The open air range house for the rapidly growing chicks is recommended by the experiment station providing as it does an abundance of fresh air, and being readily removed to fresh areas thus avoiding contaminated soil, one of the poultrymen's worst foes.

One-crop farmers using irrigation water all need it at once whereas diversified crops in suitable rotations in one community permit a more even distribution of water throughout the irrigation season. An increase of 50 per cent in crop production through rotation is made on the experiment station farms at Corvallis, where the oldest experimental plots in Oregon are maintained.

Drainage tile for western Oregon located in the friable streak below the blue clay has proved most effective on the experiment plots at the Corvallis station. They are carried over, under or around all thick impervious layers.

NEW INSTRUCTORS AT WILLAMETTE

University Year to Open September 10, With Large Enrollment.

Willamette university will open for the 1924-25 session on Sept. 15 with class work to begin three days later. According to early indications this year will see one of the largest enrollments in its history, as more than 200 students who are eligible for the freshman class have already filed their qualifications for admission. The total enrollment last year was 650 students.

As Dr. Carl Gregg Doney, president, has been granted a year's leave of absence, the work of the institution will be handled by the executive committee, of which Dean George H. Alden is chairman. Standards of the university are being raised and rules regarding entrance will be more rigid this year.

Four new professors will be included in the faculty of the coming year. Miss Lois E. Latimer, M.A., of Milwaukie-Downer college and Columbia university, is to become instructor in home economics, taking the place made vacant by the resignation of Mrs. Lida Fake Brown. Horace G. Rahskopf, B.A., who after his graduation from Willamette with the class of '20, had two years personal instruction under Mr. Curry in the Curry School of Oratory, Boston, is to be head of the public speaking department. Miss Mina L. Harding was formerly in charge. Miss Edith Debing, M.A., who has a record of study in foreign countries ond of teaching in American colleges, is to become assistant professor of modern languages, taking the place vacated by Miss Helen Hanna. Frances V. Melton, B.M., who has had extensive study in music both in America and Europe, is to take the place formerly occupied by Prof. F. B. Launer as head of the work in piano. Professor Launer is now studying in Europe.