Caring For Cheap and Waste Products

New College Bulletin Tells Plans for Establishing and Operating By-Products Plants.

TAKING the view that it is easy to dispose of first class products but that the profit of the fruit and vegetable business depends very largely upon a utilization of the second and third class products, Professors C. I. Lewis and W. S. Brown, of Oregon Agricultural College, have issued a new college bulletin called "Fruit and Vegetable By-Products," in which they explain the conditions and processes of organizing and running by-products factories.

The highly important questions of the amount of money necessary, the quantity of products raised within the proposed by-products territory, and what kinds of plants to establish, are treated intimately from the point of view of the grower.

"The question of what kind of plant should be put in cannery, vinegar works, evaporator, or jelly factory—cannot be answered off hand," says Professor Lewis. "There is undoubtedly a splendid field for all those manufacturing plants. It would be unwise, however, to try working all our low grades into any one of these forms. If we were to attempt to work all valuable produce into vinegar we should easily over-stock the market. We must remember that there are only certain types of products that are adapted to each of the special uses. The ideal to which every association should work is first to handle as large a percentage of the product as is feasible in the fresh state, to establish a canning factory that can handle large quantities of both vegetables and fruits, and to install an evaporator for the handling of all classes. Finally the vinegar works should be added. In other words we should aim to have a plant so organized that nothing would go to waste, each plant supplementing the others."

As an example of this method it is shown how peelings and cores from the cannery could be used in vinegar works, or if more profitable, how the peelings could be dried to excellent advantage and later worked into jams and jellies. By a combination of plants losses in all lines would be reduced to a minimum.

Because the success of the association for handling these products would depend very largely upon the character of the contract entered into by the growers this question is treated quite fully in the new bulletin and sample contracts are presented in the appendix. Methods of organization are also treated quite fully, so that the bulletin is of the greatest practical value to all producers who must face the profit and loss situation in their industry. Those desiring copies may secure them by writing to R. D. Hetzel, Director, Corvallis, Oregon, for Extension Series 2, No. 21.

Guard Against Hog Cholera Advised

Methods of Handling Dread Swine Disease Are Told by O. A. C. Veterinarian, Dr. B. T. Simms.

HOG cholera has not as yet gained a strong foothold in Oregon, and by observing a few easily-followed rules the dread scourage may be held at a distance. Inquiries have reached the office of the Oregon Agricultural College veterinarian indicating that swine growers are face to face with the problem in some sections of the state.

While these inquiries have been answered locally, Dr. B. T. Simms, assistant professor of Veterinary Science, wishes to have all growers throughout the state on their guard against the introduction and spread of the disease.

"To handle the disease successfully," says Dr. Simms, "one must know something of its cause and the common methods of spread.

"Hog cholera is caused by a microscopic germ that is present in the blood, flesh and droppings of hogs that are suffering with the disease. Some hogs, even after recovery, continue to pass germs in their droppings. These hogs spread the disease just as human carriers spread typhoid.

"Under ordinary lot conditions the germs will die out in four months. On the other hand they will resist the ordinary methods employed in curing meat in the big packing houses."

Extensive experiments have proven that the disease is not usually transmitted through the air. Among the more common methods of spread are the following: Contact with cholera hogs, humans who have been in contact with cholera hogs, dogs, buzzards, etc., that have fed on diseased hogs' carcasses, stock cars infected with cholera germs, infected water, infected swill, slop and garbage containing bacon rinds or bones of diseased hogs.

By care in guarding against contamination from these sources individual growers and the entire state may keep the disease away from Oregon hogs.

Winter Plowing is Now Favored

THERE is a diversity of opinion as to the advisability of plowing in the winter time.

It is generally conceded, however, that sod lands should be plowed in the winter season. The freezing and thawing of the soil puts it in much better condition than it can be put by the plow and harrow after the spring has opened.

Winter plowing also destroys many insects that would damage crops if they were allowed to live.

There will be much more moisture laid up in the soil and saved for the use of the growing crop the next year if the plowing is done during the winter season than there would be if it were left until spring.

The capillary connection with the subsoil will have time to be renewed if the plowing is done early.

This is an important item that is not often considered.

I have made a practice for several years of getting as nearly all of my sod land as I can turned before it quits freezing.

Lebanon, Oregon, citizens have decided to hold, on June 4 and 5, the strawberry fair which has become an annual festive event.

"These are some times in Josephine County," says the Grant's Pass, Oregon, Courier, "with the railroad bond case finally determined in favor of the city, irrigation seemingly taking definite shape, the mines returning a volume of wealth and the Almeda disbursing $20,000 to its creditors."

Final Plans For Cold Storage.

The Yakima Valley Fruit Growers' Association has completed arrangements for the construction of a 500-carload capacity cold storage plant at Zillah, Wash. The plant will cost about $75,000 and will be owned by a corporation, all of the stock being held by members of the fruit growers' association. The plans call for a building 140 by 140 feet, three stories in height and with a basement for the storage of ice. Work will be commenced immediately.

Pine Manufacturers Show Gain.

According to figures submitted to the quarterly meeting of the Western Pine Manufacturers' Association by Secretary Cooper, the lumber shipments from the mills of the association during the first three months of 1914 totaled 214,000,000 feet, an increase of 16,000,000 feet over the same period last year.

Creamery Now Being Enlarged.

The Oak Harbor, Wash., Co-operative Creamery Co. has enlarged its plant by providing an office room, cold storage room and salt room. If patronage increases as it has in the past few months, the churning capacity will have to be increased. The splendid quality of Oak Harbor butter is rapidly becoming known in all of the larger cities, and the company has discovered the advantage of dealing direct with the merchant instead of allowing the butter to pass through the hands of the commission men.

The stringent requirement of the forest service that all sheep be dipped before entering the national forests has practically eradicated scabies on those areas.

Kinds of Soil for Fruit Described

Theory That Trees Will Grow Anywhere Disproved by Writer of This Article.

BY C. I. LEWIS.

THE opinion is quite prevalent that fruit trees will grow and flourish in almost any kind of soil. This theory however, appears to be wrong, for fruit trees, to put forth their best efforts, require a soil of good quality, as much so as do the smaller crops, such as grains, corn, potatoes, etc. Where such crops thrive, some fruits are found to do equally well. Good soils vary in many particulars, but they should be fertile; that is, contain the necessary elements for plant growth. The soil should be deep and mellow if best results are desired. Depth is indeed a very important factor in successful fruit growing, because the root systems of the trees require plenty of room for good development. Young trees will thrive for a time on shallow soils, but sooner or later they will become unprofitable, as it is impossible for them to obtain the maximum development in such soils.

The question is sometimes asked: "What is meant by good soil?" From the chemical point of view, we would make the following classification: Poor soils contain about .15 per cent of potash, .05 per cent phosphoric acid, .2 per cent lime, .05 per cent nitrogen. Productive soils: .25 per cent potash, .1 per cent phosphoric acid, .5 per cent lime, .1 per cent nitrogen. Excellent soils: .35 per cent potash, .25 per cent phosphoric acid, 1.0 per cent lime, .2 per cent nitrogen.

Best Soil Discussed.

From the physical point of view, it is harder to say what constitutes the best soil, but there are certain properties that we find desirable. First, it should be deep, the deeper the better. It should contain enough sand and gravel to allow one to till it easily. It should have good drainage. It should contain enough clay to make it a good moisture and plant food retainer, and should contain at least 2 per cent humus.

Nitrogen is an element which leaches very easily from the soil, and this explains to a large degree the small percentage found in some soils. Each grower must, to a certain degree, study his own soil from a chemical standpoint by experimenting on a small scale with commercial fertilizers, cover crops, etc. The fact that a soil runs deficient in a certain element, after all, is not a very great drawback, as it is comparatively easy, in the majority of cases, to supply the lacking element; but the physical condition of the soil is indeed very important, as it is hard to change it materially. While a heavy soil can be made lighter by the addition of humus and careful methods of handling, and a light soil made more compact by the addition of humus, aside from this, the physical condition cannot be changed. Where irrigation is practiced, by growing cover crops and supplying artificial moisture, many commonly supposed poor soils can be made to give good returns.

Good Cultivation Needed.

To no small degree, the success of orcharding depends upon good cultivation and proper handling of the soil. To have healthy plant growth a certain amount of oxygen must be in the soil. This oxygen is formed in the air. Again, good preparation should deepen the soil, increasing the feeding surface, all the more encouraging roots to strike deeply and bringing the moisture up from the water table. By having the soil particles small the water is enabled to rise. Thus, in the feeding area of the soil we have set more plant food free, and we also have plenty of moisture. These two points are very essential, as the only way plant food can enter the roots is in the form of a solution. Water must be present. This solution entering the roots rises to the leaves, where the food is retained for future use and the water is given off. The more moisture that enters the plant, the more food is deposited.

In summer our object is to pulverize two or three inches on the surface as finely as possible to prevent the moisture from evaporating from the soil. The nearer we bring the top soil to the condition of road dust the better will be our results. The fine soil prevents the water from passing through it. If we stopped with the spring cultivation, the soil, after each rain, would bake the crust, and it would crack open, letting out the moisture. Summer cultivation also keeps down the weeds, and this is well worth while, as weeds pump out an enormous amount of water from the soil.

Farmers To Convene at St. Joseph

OVER a year ago the largest attendance of farmers at an agricultural convention took place at the first Interstate Agricultural and Industrial Congress in St. Joseph, Mo., when 3,665 farmers registered. The second meeting of this congress is announced for December 9, 10, 11 and 12, 1914, in the Auditorium at St. Joseph.

This congress, according to the plans which are beginning to take shape, will be even better than the last, as it will profit by the experience of the other, and arrangements will be made for the educational addresses to reach those who are most directly interested in them. Provisions will be made also for the exhibiting of appliances in which farmers and their families are interested.

It is expected that one of the exhibit features will be a herd of ten cows to be cared for and milked under the supervision of United States dairy officials, and a daily record posted in front of each cow, the feed being Arrangements are being perfected for displays by the state agricultural colleges of Kansas, Nebraska, Missouri and Iowa.

W. C. Brown, president of the New York Central railway and one of the foremost men in the United States in the advocation of better farming, will act as permanent chairman of the congress. The executive committee is R. M. Bacheller, F. W. Faurot, E. L. Platt, H. W. Sandusky, S. S. Connett, C. M. Betts and E. K. Slater.

Sheep require about the same pasturage acreage, weight for weight, as do cattle; sheep thrive on a shorter bite.

Eggs For Hatching Should Be Fresh

ALL EGGS intended for hatching purposes, whether under hens or in incubators, should be as fresh as possible when set. These eggs should be from sound, vigorous, healthy breeding stock only. Choose medium-sized eggs that are well formed and that have smooth, normal appearing shells. Thin or rough shelled eggs should not be set, neither should eggs be used on which there are any little warty-like excrecences of lime, as these will be sure to chip off in turning and leave holes in the egg shell which will prevent further development of the embryo. Eggs intended for hatching should be kept in a cool, dry, clean place and should not be turned while being so kept. The temperature of the room in which they are kept should not fall below 40 degrees or go above 60 degrees F. Prolonged exposure of eggs to a temperature of 70 degrees or above will injure the vitality of the germ and be almost certain to result in dead germs or fully-formed chicks dead in the shell.

Flies Are Dodging Eugene.

"It is after the middle of May and I can find scarcely a fly in Eugene," said Dr. F. W. Comings, city health officer, who has taken consistent part in the Eugene, Oregon, anti-fly campaign. "The campaign has made Eugene almost wholly clean from a sanitary point of view."

The special police officer appointed to see that sanitary ordinances were enforced says a city-wide sentiment favorable to cleaning up fly-breeding places has been developed. Dr. Comings hopes to see the city nearly flyless this summer.