

THE MAGAZINE GUARDIAN Teachers, Parents, Pupils, Farmers, Dairymen, Horsemen

THE SCHOOL AND THE HOME

SAVORY MONEY SAVERS.

Mock Chicken—Soak overnight a pint of navy beans. Cook next day with a ham bone, bacon rind or quarter of salt pork until tender. Drain and mash. Grease a baking pan. In it put a layer of the beans, then a layer of stuffing made as for chicken. Lay two cups bread crumbs, a quarter cup of melted butter or butter substitute, a half teaspoon of powdered sage put through a sieve, salt and pepper to taste, and moisten with half a cup of hot water. Over the stuffing put a second layer of beans, which dot with butter substitute. Bake until top is well browned. Serve with tomato sauce.

Molasses Pie—This is rather more expensive than any of the other dishes, so cannot be served often. However, when such a very inexpensive dinner as codfish balls and beans is served it might be permissible. Make a crust after any preferred recipe, a quarter of an open pie. Bake as for custard pie. For the filling heat together two eggs, a cup of molasses, half a cup of sugar, a tablespoon of melted butter or butter substitute, a tablespoon of flour, a teaspoon of lemon extract and a few gratings of nutmeg. Beat until thoroughly mixed, pour into crust and bake until firm. If eggs are cheap enough use one whole and two yolks in the pie, then use the whites of the other two for a meringue. This is sufficient for one pie.

Dried Peach Pie—Soak the peaches, after washing through several waters, overnight. Steam in the double boiler with plenty of water until they are tender and swelled to the size of a fresh peach. Make an open crust. Put the peaches in this, hollow side upward, in each hollow put a little sugar and a grating of nutmeg or a little powdered cinnamon. With some of the water in which the peaches were cooked make a syrup, using a cup of water and half cup sugar. Cook until syrupy, which will be in about ten minutes, then thicken with a teaspoon of cornstarch and pour around the peaches. Bake until the crust is brown, and if the juice has cooked into the peaches add a little more of the syrup when done. Serve with cream and sugar.

Chicken Sauté—Have a tender fry out up as for frying, wash well, dry, dip first in milk then in flour with which has been mixed pepper and salt. Try out the fat from two tablespoons of salt-pork cubes, put in a deep iron skillet, and when there is plenty of grease put in the chicken, but do not crowd the pieces. Cook until browned on both sides then remove to a hot platter. Turn off some of the grease from the pan, and into that remaining stir three tablespoons of browned flour, continuing to stir until smooth, turn in a cup and a half of rich milk, or half milk and half cream, cook until smooth and thick, turn it over the chicken and garnish with parsley.

Fig Puffs—Make a paste of a cup and a half of sifted flour, a pinch of salt and two teaspoons of baking powder. Into which chop two tablespoons of shortening. Mix in three-fourths of a cup of chopped figs, one egg and a coffee cup of milk. Bake in custard cups well greased or in gem pans. Don't fill too full. Turn out when done and eat hot or cold with hard sauce, honey, or with sauce made from syrup of molasses.

"Baked Indian"—Pour a quart of boiling water on two-thirds cup of Indian corn meal and stir until perfectly smooth. Cook in double boiler for thirty minutes, stirring frequently. Remove from fire, add one and add three-fourths cup New Orleans molasses, two tablespoons butter, one teaspoon salt, one-half teaspoon ginger, one well-beaten egg, and finally one quart of milk. Bake slowly for four hours in a deep dish. Aim to secure the peculiar condition known as "bonnyclabbered."—In Woman's World for January.

"SPICE OF LIFE."

Plum Pudding.

In merry old England the pudding is as ancient as its history. Man's first primitive style of cooking was by boiling, and pudding was first cooked by this method. It is a national dish, served alike in the castle of the king and the hut of the peasant. "Peace pudding hot. Peace pudding cold. Peace pudding in a pot. Peace pudding nine days old." Mrs. John Bull excels on concocting puddings. She makes all sorts and all kinds of which custom never grows tired; they are of infinite variety. The greatest of the great is plum pudding. "Plum pudding like the planet to which it is named in honor, was gradually and slowly perfected. It was, at first, a mere spooned mess, but it finally acquired consistency and became the luxury we now eat. Robert Argyll, master cook to William the Conqueror, when he presented this dainty to the King, called it La Grenet, otherwise plum porridge. The chief served this dish to William on the day of his coronation, and the cook received as a gift the estate of Aidington. This is not tradition, but an article of history recorded in Domesday Book. From plum porridge in the fulness of time to plum pudding. The royal dish, although for "all time" like Shakespeare, is not for every day. The Christmas festivities demand that it be the best and best of the season's food supplies. "Rounded well plastic in a tightened rag. Whose mold and matrix was a pudding bag."

FARM

THE DIVISION OF BOTANY

Prevention of Field and Storage Rot of Potatoes by Bordeaux Mixture

By Paul A. Murphy, Officer in Charge Field Laboratory of Plant Pathology, Charlottetown, P.E.I.

Although it is well known that the principal rot causing loss in potatoes both in the field and in the cellar, the late blight rot, often misnamed the "dry rot", is due to the same cause as brings about late blight on the foliage. It is not always realized that spraying the foliage with Bordeaux mixture sometimes derives its principal importance from the prevention of rot developing, rather, and subsequent to, digging rather than from increasing the yield by the prolongation of the life of the tops.

Growth of the Potato

It is of course of great importance to keep the foliage in a living and active condition as long as possible. All the food which the potato plant manufactures and stores in its tubers is elaborated in the leaves, and the longer the foliage lives and functions the greater will the crop be, other conditions being equal. The importance of prolonging the life of the foliage to the utmost will be better realized in the utmost will be better realized if we consider the life history of the plant. In the Maritime Provinces the period of growth of the potato crop from the time of planting until harvesting, is approximately four months. The first two months are spent in growing the sprouts, roots, stolons, stems and leaves of the plant. This is all in the nature of capital expenditure. It is as though the factory were being built which will in the ensuing two months manufacture about 1 lb. of potatoes. After the lapse of around two months tuber formation begins, and it continues as long as the plant lives. Theoretical, therefore, every week that the plant lives in vigorous condition after the manufacturing operations commence means an output of about 2 oz. per plant, or slightly more than 31 bushels per acre, the yield being assumed to be 250 bushels per acre. As a matter of fact Jones showed in Vermont years ago that a total crop of 379 bushels 321 bushels were produced in the last 51 days of a growth period of 125 days, the average weekly increase during that time being nearly 45 bushels.

Late Blight in the Maritime Provinces

In the year 1915 there was an early and very severe outbreak of the late blight all over the Maritime Provinces. Most of the foliage in unsprayed fields, even in the latest parts of the country, was dead by the middle of September, while potatoes had been thoroughly sprayed with Bordeaux mixture remained green from two to three weeks or more longer. This lengthening of the life of the plants showed itself in experiments carried out at Charlottetown, P. E. I., on three common varieties in an average increase in yield per acre of 97 bushels of marketable potatoes.

The season of 1916 was different in character and different in the way the blight appeared and acted. The disease never got far enough ahead in that year as a general rule to kill the tops completely, although it was present on them for from two to six weeks before digging time. In some cases it did an appreciable amount of injury to the leaves, sufficient to be measured by an increased yield in adjoining sprayed plots, in which the foliage remained intact until frost struck or the crop was dug. But several cases were observed in which the use of Bordeaux mixture did not seem to give any increase in yield. In some of these instances it was possible to store the potatoes from the sprayed and unsprayed portions of the field separately, but in the same cellar and under exactly the same conditions, when the results set out below were obtained:

Table I.—Control of late blight rot of potatoes in field and cellar by spraying with Bordeaux mixture; Variety—Green Mountain.

Table with 5 columns: Treatment, Total yield per acre, Late blight rot in bush per acre (In field and cellar, In cellar Oct. 1916, In cellar Jan. 1917), Total, Net amt. of marketable potatoes in May 1917, Difference in favour of sprayed plots.

It will be seen from the above table that the use of Bordeaux mixture did not result in an increased yield when the crops were dug. This was to have been expected because the late blight was responsible for little or no damage to the tops, even on the unsprayed portions, although it was generally present there. There did not seem to be any conspicuous reduction in the amount of rot found in the field in certain cases as a result of spraying, but in every case of which we have the records the spraying effected almost complete control of dry rot in storage. This was most evident in the months from October, 1916, to January, 1917, but its good effects were sustained up to the middle of May, 1917. Taking the average of the three sprayed plots there was a loss of less than 10 bushels per acre from late blight rot from harvest time to the following May, while the loss in the check plot during the same period was 140 bushels per acre. The latter figure shows that almost one-half of the crop was destroyed by rot, a very large portion, but not as large as some of the commercial losses sustained in the same year. Authentic cases are on record in which one-half to three-fifths of the sound potatoes placed in storage were lost owing to late blight rot.

Table II.—Control of late blight rot of potatoes in field and cellar by spraying with Bordeaux Mixture; Variety—Cummings' Pride.

Table with 5 columns: Treatment, Total yield per acre, Late blight rot in bush per acre (In field and cellar, In cellar Oct. 1916, In cellar Jan. 1917), Total, Net amt. of marketable potatoes in Jan. 1917, Difference in favour of sprayed plots.

Similar results were obtained on the variety Cummings' Pride at Charlottetown, P.E.I. (Table II.) The comparative figures are only available for the month of January because the unsprayed potatoes were not kept any longer, but the potatoes from the two sprayed plots combined were kept until May and the further rot which developed in them amounted to a total of 3 1/2 bushels for the two, or an average of 1 1/2 bushels for each. Spraying in this case resulted in an almost perfect control of the late blight rot as is possible commercially, the total loss per acre on sprayed potatoes up to May being only 3 1/2 bushels while 70 bushels of similar unsprayed potatoes had rotted by January.

Conclusions

Results such as these are likely in years such as 1916 when for certain reasons the blight is not sufficiently severe to kill the foliage completely, the conditions are good for the transfer of infection to the tubers and they are generally more liable to be

FALL CARE OF FLOCK

With choice lamb selling at 15 per pound and better, and wool at 55c, surely the sheep can be truly said to possess the "Golden Hoof." The supply is short, the demand is great and all these things should stimulate every flockmaster to do his very best to meet the requirements of the trade. In order to do this it is necessary to start with the flock right now as mating time is near and the conditions of the flock at mating time, are considerable to do with the natural increase of the flock. The ewes that are thriving—not necessarily fat—during mating, are more likely to produce twins than the ones that are losing flesh during the same period. It is advisable to reserve a field of clover or a patch of rape or a field of rye into which they can be turned two or three weeks previous to mating. This acceptable change will start them off on a fair way to a daily gain and put them into the best form to breed promptly; bringing your crop of lambs in at one time instead of scattered along for weeks

should be dipped in any of the coal tar nonpoisonous dips, used according to directions. This will more than repay for all the trouble and expense. A dipping tank can be made of cement, built in the ground, at comparatively small expense, where it will be out of the way and can be used for calves or pigs if they should get lousy, as they sometimes do. A clean, sharp gravel will do the trick. I will give dimensions suitable for the average sized sheep since the larger it is built the more dip is required. In width the tank should be 22 in. at the top and 6 in. at the bottom. The length is 3 ft. 6 in. at the bottom and 8 ft. at the top, 4 ft. 6 in. being allowed for an incline. The depth of the tank should be 3 ft. 9 in. about 2 ft. 6 in. of which is below ground and 1 ft. 3 in. above ground. With a tight bottomed grate at the top of the incline, sloped towards the tank, each sheep can be delayed for a few minutes to allow most of the surplus dip to run back into the tank, thus minimizing the waste. Then, the dipper on the front of the crate can be opened and the sheep allowed to walk away. When the dipping is completed if the weather is harsh and cold, the dipping not only kills lice and ticks but it cleans the skin and stimulates the growth of wool.

I should have said in the beginning that owing to the scarcity and high prices, there may be a tendency for some to start in by buying old ewes because they are cheap. This is sometimes profitable with pure breeds, because of the extra price that the offspring will command. It would pay to give the old ewes some extra chop to bring them through in this case, but with the grade or common stock it is certainly advisable to send every broken mouthed ewe to slaughter. The old ewe does not produce much wool and the chances are against her surviving the winter unless she gets considerable extra care.

Don't be tempted into buying old ewes to winter over, simply because they are cheap. It is better to have prime ewes even if you have to be contented with fewer numbers. Last fall, square up with the shears any that may be loaded with dung locks, before they are put into the mating fold, it may mean an increase in lambs the following spring when you otherwise might not have any.

Sheep are exceptionally profitable livestock and we are all warranted in giving them the attention that they deserve, so let us commence now.

CONSERVATION AND UTILIZATION OF FARM MANURE

(Experimental Farms Note.)

All investigations go to show that farm manure has its greatest value when fresh, that the liquid portion is richer than the solid material and that the former is more readily lost through drainage and leaching. Hence it is that every precaution is taken here to conserve a minimum loss of plant food constituents in the manure and is the chief reason for applying manure to the land, where practicable, as quickly as possible after it is produced.

At the Central Farm, Ottawa, the liquid manure is absorbed by means of litter, usually cut straw, and as each load of mixed liquid and solid manure is gathered it is taken directly to the field and is spread on the land either by hand or by means of the manure spreader, as convenient. This method is carried on consistently throughout the year although during occasional winter seasons this system may be disorganized for a time due to the depth of snow or other causes. The contour of the land at this farm which varies from fairly level to gently rolling lends itself admirably to the foregoing plan of procedure.

The manure is always applied systematically in definite cropping systems or crop rotations. The amount and frequency of application vary according to the duration of the rotation, but, without exception, in the regular farm rotations, six tons per acre of fresh manure is allotted to each year of the rotation. For instance, in a three-year system, of hood, grain and hay crops, eighteen tons is applied for the hood crop. In four-year rotations twenty-four tons is the quantity used. For a five-year rotation the amount is thirty tons of which fifteen tons is applied for the hood crops and the balance is spread in lighter dressings for the clover and timothy hay areas.

Where manure is applied for cultivated or hood crops the importance of incorporating the manure thoroughly with the soil as near to the surface as practicable is closely observed.

Don't burn up leaves. They are worth money as fertilizer according to the best estimates. The leaves retain relatively large amounts of nitrogen and phosphorus which were originally a part of the soil. Through decomposition the fallen leaves enrich the soil and it is because of this and the accumulation of humus that the black earth of the forest is so fertile. For this reason the burning of leaves robs the soil of much of its fertility. Says today's bulletin from the National Emergency Food Garden.

Decomposition of leaves as they fall from the tree partly dry, contain water, nitrogen, phosphoric acid, potash and lime. A ton of leaves will contain eighteen pounds of nitrogen, four pounds phosphorus, eight pounds potassium and 40 pounds lime. We have known the value of fertilizer and have known it since the garden campaign of a year ago and it is of the utmost importance that every thing be done to conserve anything that will fertilize the gardens during the coming year. It should be the work of every community to organize now to take up this work and see that every thing possible is saved, for we will need it next year if we never needed it before.

Now is the time for each and every municipality to organize a community garden campaign, for soon will be upon us the time when we will have to go to work to again begin feeding ourselves and our soldiers who are being rapidly sent to the front. This saving of leaves is just another of the little things that we can do to help win this war. To conserve the fertility contained in the leaves as well as to make it available and to prepare them to be applied next

spring on the garden they should be come posted; that is piled to twenty feet square and four to five feet deep and tightly compacted.

CARE OF COLT DURING WINTER. The foal should be well cared for during its first winter, as the first year of any animal life has much to do with its makeup at maturity. In the first place its food should be of a suitable kind, sweet and wholesome. As the stomach of the foal is quite small it should not be fed too much at any one time. Small quantities, regularly fed, will tend to keep the appetite sharp, whereas its daily ration is one feed would not be relished to the same extent.

While the chief foodstuffs for the foal should be well cured root clover or alfalfa, oats and bran, a variety of foods such as ensilage, turnips, etc., fed in moderation along with the regular ration will be found to be beneficial. Salt and water is desired and plenty of exercise in the open air, with comfortable quarters to lie in should be all that the colt requires to start it out on the road success. The growing colt, well nourished, does not mind the cold.

R. H. H.

FEED FOR CALVES

The following system of raising calves is followed by a successful dairyman with very excellent results: Remove the dairy calves from the cow at birth. Do not allow them to suck unless weak or unable to drink, or unless the cow's udder is severely caked. Mother's milk for the first four days at the rate of 8 to 10 pounds divided into three or four feeds is essential. Feed whole milk for the first ten days, then start replacing part of the same with skim milk, so that when the calf is one month of age, it may be receiving in two daily feeds, six pounds of skim milk plus a tablespoonful of finely ground scalded flax-seed jelly.

At three weeks of age feed a small quantity of whole oats in the manger. Fine hay and clean water might profitably be kept before them from this time on. During the next fifteen weeks gradually increase the skim milk to 15 or 20 pounds daily. Add to the flax-seed jelly other constituents to make a cream substitute as follows: Finely ground flax 1 part, fine ground oats 2 parts, ground corn 2 parts. Feed in the milk divided into two feeds daily at the rate of one-eighth pound at the start and increase to 1 pound and increase to 1 pound.

Replace the whole oats at four weeks of age with a grain mixture of equal parts bran and rolled or ground oats. Start the calves on one-eighth feeds per day and increase gradually to 1 1/2 pounds daily at twenty weeks of age when the skim milk may be gradually cut off and this grain ration increased proportionately.

DOES IT PAY TO RAISE ALL HEIFERS FROM RAIRY HERD?

Economy, conservation and efficiency have no worse foe than the inefficient farm animal. Animals are expensive producers of human food for the reason that they consume much more digestible nutrients in their food than they return in animal products. Even the very best animals return only a small percentage of the food value of the

grain consumed in the form of food for man. For this reason in these times of high grain prices only the most efficient animals should be raised, if we are to maintain the proper balance between different needed food products and prices paid for them.

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