

Soils and Crops

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PACKAGES CONTAINING FRUIT FOR SALE.

E. S. C. Welland Co.—What are the Dominion regulations regarding the packing of fruit for sale?

Answer—You had best send to the Fruit Branch, Department of Agriculture, Ottawa, for a copy of the orders and regulations, but, briefly, they are as follows: Every package, either open or closed, containing fruit intended for sale, has to be marked with the initials, surname, and address of the packer, the name of the variety, and the grade of the fruit; if the package is repacked it must be so endorsed and by whom; "immature fruit," which is fruit not ripe enough for dessert, must be so described on the package; the package must be well and properly filled; old marks, if any, on the package must be obliterated.

SIZE OF BERRY BOXES.

Fruit Grower, Niagara—What are the requirements of strawberry boxes regarding size and capacity?

Answer—The regulations read: Every box of berries or currants packed in Canada for sale in Canada, and every berry or currant box manufactured and offered for sale in Canada shall contain when level full as nearly as practicable one or others of the following quantities: (a) four-fifths of a quart; (b) one pint, and shall be 4 1/2 by 4 1/2 inches at top and bottom and 1 1/2 inches deep; (c) two-fifths of a quart.

FARM DRAINAGE.

The drainage of farm lands should receive increased attention. Many farms and even whole districts are not as fertile and productive as they would be if drained. A drainage system is essential in this humid, temperate zone of heavy rainfalls. Fortunately, throughout the greater part of Eastern Canada there is adequate natural drainage. The land is rolling or hilly. The surface formation is more or less porous and water, even after the heaviest rains of summer, disappears within 24 hours from the surface of the soil.

There are many farms that have fairly good natural drainage, but not sufficient to remove the water quickly after heavy rains and spring freshets. These can usually be greatly improved by a system of surface drains including the plowing of fields in lands so that each dead furrow may be a drain with a definite outlet.

Heavy soils and lands that lie so that the natural drainage cannot easily be determined usually require underdrainage. A soil is frequently cold and wet on account of an impervious subsoil. Other soils are of very little agricultural value because of seepage. The tile draining of such as these is a valuable permanent improvement to the farm. It will enable the farmer to seed his crop earlier and to grow healthier and much larger crops. It will be better than insurance against drought and spring frosts. It will increase profits and save valuable fertilizing ingredients from being washed from the surface of the soil.

For any drainage work a sketch or map is essential. On it they should place the data obtained from a survey of the farm, contours marked and

drains located; then it serves as a permanent record and will save time and labor in future drainage work. A number of permanent landmarks should be located and measurements marked on the map from these to the underdrains.

In laying out systems of tile it is important to keep the slope or fall as uniform as possible. It should not be less than 2 inches per 100 feet, and where changed suddenly a silt basin should be built. Three-inch tile is the smallest profitable size, and as the volume of gathered water increases so the tile should be increased until the main drain for a twenty-acre field having a fall of 5 inches per hundred feet should be laid with six-inch tile. The distance between tile drains is governed largely by the depth at which they are laid. Much tile has been laid from 2 1/2 to 3 feet below the surface. The present tendency is to lay tile shallower. At these depths for field crops it is usually sufficient to place drains 100 feet apart. Then, should it be found necessary, others can be laid between, making them 50 feet apart.

The efficiency of all drains depends largely upon a satisfactory outlet. It must be large enough for the purpose and be low enough to drain the tile dry when they are flowing.

LOOK BEFORE YOU LOAD LIVE-STOCK.

Inspection of 700 arriving cars of stock at seven of the large markets by supervisors of the Packers and Stockyards Administration, United States Department of Agriculture, has shown that shippers would do well to make careful examination of cars before loading them.

"The railroads maintain satisfactory car-inspection service at the large markets, but not all cars sent to country shipping points have moved directly from the terminals. As a consequence many cars have defects that may cripple animals or even cause their death. Of the cars inspected in this investigation 7 had holes in the floors, 91 had projecting nails in the walls, and 88 had cleats that might, and probably did, cause bad bruises. Eighty-two of the cars were without bedding, a large factor in the safety and comfort of animals in transit."

"No matter who is responsible for the condition of cars, it is to the interest of the shipper always to make an inspection of his own, and most certainly it is up to him to see that the right kind of bedding is provided. Frequently, however, the bedding in stock cars, and because of this a careful examination must be made for projecting nails and cleats that may have been left when these partitions were removed. The floor is the most important part of the car. It should be gone over thoroughly and any holes patched. Doors must be in good repair and when the cattle or other livestock are loaded, securely fastened."

"Last year at one middle-western market 1,700 cattle and more than 2,000 hogs were found crippled in cars. In December more than 1,000 crippled hogs were received at one of the eastern markets. These numbers are small in comparison with total receipts, but they look mighty large to the shippers who owned the animals."

Killing Weeds With Brains

By Mrs. E. P. Harling

If only a "Saint Patrick" could banish the weeds! It takes many a fortnight, long continued and well directed, even to control them, much less exterminate them, and perhaps, on second thought, we would not be quite willing to banish them from the face of the earth. Many of them are so lovely that if they were rare they would be almost priceless, as for instance, the Mexican poppy, or Queen Anne's Lace, with its delicate, lacy white flowers.

But if you give them an inch, they'll take an ell. As a class, weeds have a long black list against them. They rob the soil, thus defeating the very end for which the farmer strives—that of giving his crop plants the very best possible chance to make good growth. They retard the work of harvesting. They increase the labor of cleaning the seed at threshing-time. Some of them injure stock, as for example, the needle-grass, squirrel-tail grass, etc., the awns of which get into the gums and nostrils and even into the eyes of the stock while they are eating. Some weeds, such as hemlock, loco and many others, poison stock, thus causing serious loss of time and money. These and many other sins are laid at their door, and few are the good qualities with which to offset them.

WEEDS INCREASE COST OF FARMING.

There is no possible doubt that weeds greatly increase the cost of farming. Without their introduction would be almost cut in two. The fields which have been kept clean from weeds for the longest time cost least in up-keep and yield larger returns. As a rule, one need not go far from his own farm to find proof of this.

CUT WEEDS IN PASTURES.

Some method should be adopted which will prevent weeds from going to seed in pastures. If weeds are particularly bad, then something is wrong. Possibly the pasture is overstocked. Whatever the trouble may be, it must be remedied before there can be a very marked improvement. Pastures may be mowed to get rid of obnoxious weeds. In some instances it has been found successful to spud off thistles, loco, and other weeds of bad character, and by means of an oil-can squirt gasoline into the cut-off roots. This will kill the old plants, and if you are careful to pull up the seedlings which will volunteer from time to time, two seasons of such faithful work will make a big differ-

ence. If for any reason the weeds have been allowed to come into full bloom, then the quickest and surest way to kill the seeds already formed in the flowers is to gather the weeds and burn them.

CULTIVATE, CULTIVATE, CULTIVATE.

The greatest task is in the fields containing row crops and forage and small grain crops. Almost all farmers recognize the need of keeping the ground between the rows free from weeds, but not all are awake to the urgent need of taking care of the particularly bad spots by themselves; of clearing out in the rows and keeping the ends and edges and fence corners clean.

Weeds have tremendous seeding powers, and it requires no more than a moment's thought to make us realize that the neglected or overlooked weeds left in a field can furnish more than enough seed to cover the entire farm with a luxuriant growth of weeds.

These out-of-the-ordinary places are so extremely important that particular pains should be taken to destroy the weeds on them. Such weeds should be gathered and burned, if they have been allowed to come into full bloom, to kill the millions of seeds they carry.

When you come right down to it, there is no excuse for weeds taking such toll from farmers' profits, for they can be exterminated. The trouble with us is that we want a sort of "get-rich-quick" method. We aren't willing to be more thorough each time, and yet it is just this little bit of extra effort which spells the difference between positive success and goiter.

Go out and take a look at the nearest patch of bindweed, for instance, whose roots are sometimes found six feet or more in depth and whose tops have runners anywhere from one to twenty feet long. Does any one think he can kill out such a plant by an occasional chopping or plowing through it? There would be just about as good chance for success by such methods as a man weakened by long indoor life would have of thrashing a right method and keep at it.

A sand-bur ripens more than 42,000, and a foxtail will mature more than 100,000 seeds. The chickweed which grows all over the place produces five generations a year, and each plant is capable of bearing 3,000 seeds. No wonder it takes such incessant hoeing to get rid of it after one gets started. And just for a "big fish" story, let's stop with the humble purslane, or "pussley," which is credited with 1,250,000 for a single plant. Nor are these cases exceptional. Hundreds of the plants we know

the best will do quite as well and some do better.

WEED SEEDS LIVE MANY YEARS.

"But," you object, "I don't let the weeds grow all summer long anywhere on my farm. I always mow them off once anyway." Yes, but once isn't enough. And what do you do with the cuttings? To mow after plants have begun to bloom and let the cuttings lie where they fall is evidence of the lack of thoroughness for which this plea is made.

In the first place, plants often begin to bloom, and therefore mature seed, long before most people suppose; and in the second place, after they have been cut, many plants have sufficient vitality to ripen at least part of their seeds even after the plants have been mowed or chopped off, as witness the dandelion. Seeds of these chopped off plants fall into the soil where Nature wraps them up carefully, apparently preparing for the possible "seven lean years."

The stubble of these mowed or chopped off weeds nearly always sends up new branches which bloom and bear seed. Sometimes these branches will lie almost on the ground, below the usual reach of a mowing-machine, and it is frequently a fact that unless properly done, mowing may actually increase weeds.

There seem to be two different methods of mowing when the object is to kill weeds. First, very frequent cutting to prevent blossoming. Second, cutting just as the majority of the weeds are beginning to bloom. This is the time when plants are using their maximum strength to put forth seed, and if they are cut at this time, they are caught when they are most exhausted and their stubble takes longer to send up new branches. Cutting at this time is the better if the cuttings are burned, or thoroughly destroyed in some other way. It is absolutely essential that the seeds just forming should be destroyed, and fire is certain destruction. Dry material of some sort should be piled with the cutting and the pile lighted at once. Delay gives opportunity for the seeds to be scattered, and many thousands of them will be ripe the day after the plants were cut. The cuttings will perhaps be too green to burn up entirely, but the big point is to heat the seeds enough to kill them. If this is done, their mischief is ended.

The stubble of annual weeds can be plowed under; also many seedlings in spring and fall can be killed this way. Plants called perennials must be treated differently. If you don't know what your plants are, dig up some of each kind, taking the entire

Wage War on the Enemy

We must be early and eternally ready to outwit the insects and diseases that lie in wait for our gardens. The best methods of handling insects and diseases are preventive methods, such as: encouraging a vigorous and resistant growth by proper tillage, rotating crops and groups of crops closely related; destroying all garden refuse and weeds, and plowing in fall to kill some insects. Spraying is effective in combating some insects and some diseases while for others it is of no value at all.

TWO CLASSES OF INSECTICIDES.

There are two general classes of insecticides (insect spray materials). They are, poison or stomach insecticides and contact insecticides.

Poison or stomach insecticides are used against insects having biting mouth parts such as cabbage worms and striped cucumber beetles. Insecticides of this class most commonly used are Paris green and arsenate of lead. Sometimes hebebre and London purple are used but they are less effective. For young potato beetles, cabbage worms and similar insect similar insecticide of arsenate of lead paste per gallon of water or 2 1/2 to 3 pounds per 50 gallons will be sufficient. With arsenate of lead powder or Paris green one-half of these amounts of poison are used. When old potato bugs are to be killed these amounts may need to be doubled. Arsenate of lead is the most desirable of this class, as it sticks to the foliage better and does not burn it nearly as much. Paris green can be made to stick better by adding soap to the solution and the danger of leaf burning can be reduced by using a little more lime, by weight, than Paris green in the solution. Calcium arsenate is a comparatively new insecticide which can be used the same way as lead arsenate.

CONTACT DESTROYERS.

Contact insecticides are used for insects having sucking mouth parts. They kill the insects by the material actually getting on the insect and corroding its tissues or by strangling it. The most common of these insects are the aphids or plant lice and the squash bug. Insecticides of this class are soap solutions, kerosene emulsion and tobacco decoctions. The kerosene emulsion is made by dissolving one-half pound of soap in 1 gallon of hot water then mixing with 2 gallons of kerosene till the whole is thoroughly emulsified. This stock solution is then diluted from 15 to 20 times. A number of tobacco extracts are on the market which are very effective and more convenient than kerosene emulsion. They should be applied at the rate specified on the package they come in.

When several materials are applied in one solution, each material should

be thoroughly dissolved in a small amount of water before mixing. It is most important in spraying to spray as soon as the first insects appear and before they become a serious pest.

Some of the poison sprays can be applied in powder form. If applied in this form on a still and preferably damp morning, they are very effective. Dust sprays should be used cautiously so that some people are poisoned when applying them.

The most convenient device for applying spray solutions to the garden plants is a hand compressed air sprayer. As spray materials will corrode metal, the solution left over should always be thrown out and the sprayer rinsed before setting it away.

CONTROLLING CUT WORMS.

Cut worms, wire worms, white grubs and stalk borers give frequent trouble. All of these are controlled to some extent by fall plowing and the destruction of all garden rubbish and weeds. Cut worms can be killed with poisoned bran mash, made in the proportion of 1 quart of bran, 1 teaspoonful of Paris green, 1 tablespoonful of molasses and enough water to moisten. This mixture should then be scattered along the rows or near the plants. When this is used, all poultry should be kept away from the garden. When stalk borers are found in a garden, the best thing to do is to destroy the attacked plants as soon as they are noticed and to be sure and clean out and destroy all weeds and plant remains in fall.

Most vegetable diseases can be controlled by proper preventative measures previously enumerated for the control of insects, especially by crop rotation and rubbish disposal. For some diseases as leaf blight, forms of which attack cucumber, tomatoes and potatoes, Bordeaux mixture is a good remedy.

Bordeaux mixture is made by dissolving 4 pounds of copper sulphate in 4 gallons of water, slacking 4 pounds of stone lime and adding enough water to make 4 gallons. When needed, add enough water to each solution to make 25 gallons and mix the two solutions. This should be applied immediately as it deteriorates rapidly. It is important always to have a little more lime in the solution than copper to prevent foliage injury. An excess of copper can be detected by dipping a clean knife blade into the mixture. If in excess, a coating of copper will be precipitated on the knife blade. An excess of lime can be detected by blowing one's breath over some of the mixture in a porcelain cup, in which case a thin scum will be formed on the surface of the water. After the plants are badly diseased, spraying will help very little, but if a garden or locality is troubled with one of these diseases, it can be held in check by proper preventative spraying.

Home Education

"The Child's First School is the Family"—Froebel.

Importance of Keeping Promises—By Edith Lochridge Reid

To the child a promise is as serious and binding as a promissory note to a banker. Not all notes are paid, it must be admitted; neither are all promises kept that are made by mothers. Sometimes a child goes in order to restore peace, mother whispers that if Johnny will keep still he can have a nice big box of candy afterwards. So although it is mighty hard work for the tot to control his energy, he does manage to calm down and behave with the thought of this unusual reward. Then the meeting is finally over, it is late and when Johnny begins to clamor for payment due as promised, mother dodges her obligation by saying that it is near supper time and she must get home, and there isn't any store near-by where Johnny can be purchased and won't promise to pop him some corn while she gets supper. Is it any wonder that Johnny sits down on the sidewalk and wails and kicks his heels and makes a scene? No doubt passerby remarks what an ugly disposition that child has and how hard it must be to manage him. Now this mother made two mistakes. First, she never should have made a promise that was really a bribe. Probably little son was too small to take to such a long meeting and remain quiet. But bribe or no bribe, once she had promised to get that box of candy she should have done so if the family had nothing but sandwiches for supper, because she was trailing a candy shop.

Another thoughtless mistake mothers make is keeping promises half-heartedly. Mary comes out in the kitchen just as mother is kneading bread and begs for a story. "Run along a little while, dear, and when 'm not so busy we'll read a nice long story." So Mary in all good faith plays quietly and contentedly on the strength of this promise, and after what seems ages to her, she once more approaches mother, who is now at the sewing machine. "Oh, I'm so anxious to finish this dress, and as soon as I do I'll read you a story if you're very, very good until then," says mother. Then a caller comes and after that it's mealtime again and Mary's confidence in promises goes flickering. She stamps her little foot and pouts, so mother says, "Well, if you're going to act naughty and worry mother, I'll read you a story if you're very, very good until then." Then without any spirit of sympathy or enjoyment she reads the shortest story she can find in order to appease Mary's tantrum, and she considers she has kept her promise.

So our first thought as mothers must be not to make too many promises. Better a surprise now and then, than a promise broken. And second, once a promise is made, never fail to fulfill it, not from the viewpoint of mother and her interest, but entirely from the child's attitude of expectancy. It is difficult and inconvenient at times, but not nearly as difficult as it is to regain the lost confidence of the child, for if there is a keyword in successful discipline it is CONFIDENCE.

Preparing Lambs for the Top Price.

In the annual review of the live stock market and meat trade situation for 1922, officials of the Federal Live Stock Branch point out that a noticeable feature of the lamb market was the absence of docked or castrated lambs. Whenever an odd load of docked and castrated lambs was offered for sale, the price realized was well above that of ordinary lambs and they were always the object of keen competition. These statements were made more particularly with reference to the Toronto market, which is supplied from the banner live stock province of the Dominion.

In the bulletin "Sheep Husbandry in Canada," the author quotes the views of sheep buyers who state that the neglect of castration is the most prominent defect in the sheep raising industry. That it should continue to be so is astonishing because the operation is simple, quickly done, and carries very little risk of loss. Long tails are regarded as an evidence of poor shepherding. When they mean lower prices, they become a sure sign of poor business. Whether it be horses, cattle, hogs or sheep, or even a basket of fruit, it is always profitable to present them for sale in attractive condition. If lambs are to make a good impression next autumn, the surgical operations must be done this spring, and the earlier the better after a lamb is ten days old. Pamphlet No. 9 of the Sheep and Goat Division of the Federal Live Stock Branch describes the operation.

My Remedy for Lice.

I have found a remedy that will kill lice on dairy cows or any infested stock. Calves, especially, will not do well if troubled with lice. I have tried other treatments, but have used this one altogether since testing it. The mixture is: one part Persian insect powder, one part sabadilla seed; six part flowers of sulphur. Our local druggist has so much call for this mixture that he keeps it ready-mixed. It retails at present at 30 cents per pound. I applied this powder to a saddle mare that got pretty well plastered with lice one winter when she was not used much. In a minute or two I could see every louse in her hide start climbing off toward the ends of her hairs with the greatest enthusiasm. When they arrived at the end of the line there seemed to be no place to go, so they stayed there for a while madly waving their feet. Then they dropped off for keeps.

One more application to catch any nits that possibly hatched out finished her up. I have since used it on all sorts of stock, and always with the same success.—A. H. D.

The Farmer's Paint Pain. Ready-mixed paints save money for the farmer who knows how to use them. Most farms have buildings which need a touch of paint every season. The house, the garage, the ice-house, the granary, the big barn or the wagon house—all call for their share of attention. It is well to arrange it so that not all of these will come due to be painted the same year, thus dividing up the expense. Brushes are high now. We have the bill for one flat brush that amounts to \$2.75. For that reason it pays to take care of brushes. It is easy to leave a brush all soaked with paint until it hardens and is spoiled. Thousands of dollars are wasted that way every year. As soon as a brush is out of its job, it ought to be washed with soap and soft water. When leaving brushes overnight, let them hang in lined oil.

"Kosher" means for Jewish consumption must be "clean" in the Old Testament definition of the word as opposed to the ritually "unclean." The word in Hebrew means "clean," "light" or "fit."

Many men seek fortune in order to be independent; they should rather seek character, the only true source of independence.

PRIDE AND PUSH

One evening recently, as we returned from work, our five-year-old girl came running with a basket which she had completed at school. It was shaped, neat, and the colors were arranged harmoniously. The teacher had spoken well of this piece of work. The little girl was all absorbed in what she had accomplished. She certainly took pride in this little basket. Her heart was full of enthusiasm and her eyes sparkled as she explained the merits of her product and rehearsed what the teacher had said about it.

The very next day she was able to bring home another basket which had even greater merit than the one of the day preceding. It was her complete devotion and pride in her work that enabled her to do each day a little better than she had done the day before.

Now, pride in ourselves is almost certain to lead to snobishness, but pride in our work furnishes a way to better things. When we become so absorbed in the things we are doing that we throw our very soul into our efforts, we are then on the only sure way toward gaining better things on the morrow. Whether we be master or servant, leader or follower, we need to be convinced thoroughly that our task is worthy of our time and energy.

To-day, there is a weeding-out process going on in rural communities. Those who take no pride in farming and look upon it as a means merely of making a little money, are now leaving for the bright lights. While those who are devoted to agriculture who feel that it is a real worth-while part of our nation's business are sticking. The hope of farming lies with the group who take pride in tilling their fields and who feel that it is a dignified occupation.

Saves Time and Help in Haymaking.

We have a device which is a great labor-saver in haying time. It is a truck which fits a wagon rack and runs on four small wheels that use the side rails of the wagon rack for a track. The truck is 5 1/2 feet wide and 7 1/2 feet long. The frame of the truck is half the size of the wagon rack length, and the space between the wheels is adjustable so as to fit any hayrack.

The truck is placed on the back of the wagon rack when beginning to load hay with a hay-loader. When the truck is full, half of the entire load is on the wagon and the other half of the load can be put on. This eliminates the necessity of handling the hay twice or dragging it from the rear of the wagon rack to the front.

The truck device is equipped with long stakes and cross-bars at one end, short stakes and one bar at the rear. Stakes, front and rear, can be placed flat when not in use. The truck is provided with steel arms fastened to a spring, reaching over and under the rack rails to hold the truck in place while in use. When the truck is filled, the arms may be released and the truck pushed to the front of the wagon rack.

The outfit weighs 230 pounds and when in storage occupies a space 7x9 feet and 9 inches deep. By use of the "hay hand," as the truck is called, one man is saved on the wagon, time is saved in unloading, as the load is in two sections and the driver is never in the way of the man handling the hay as it comes from the loader.—A. K. C.

Why They Go.

The farm family as we knew it as boys differs from the modern farm family of to-day. In the old days with ten or a dozen children growing up on every farm there was little need of immigration—the needs were largely taken care of by natural increase. It is different to-day. The children in the modern farm home are frequently not abundant enough to replace the father and mother. Under present conditions the farm population is on the decline. Overwork, necessitated by the lack of sufficient help on the farms, has driven more boys from the farm during the past fifteen years than any other cause. With work staring the young men on the farms in the face the tendency has been to attempt more than their strength would warrant. The boys get tired of the long hours and drudgery made necessary by lack of sufficient help and seek some other outlet.

Canada's Export of Meat.

Canada exported to Great Britain during the first three months of this year 3,645,100 lbs. of beef, against 1,880,200 lbs. in the corresponding months of last year; 27,074,000 lbs. of bacon, against 24,639,700 lbs. and 1,202,000 lbs. of pork, against 120,000 lbs. She exported altogether in the first quarter of this year against the one period last year 6,493,500 lbs. of beef, against 3,688,600 lbs.; 27,306,800 lbs. of bacon, against 24,947,800 lbs., and 1,844,800 lbs. of pork, against 655,200 lbs. There was a drop to 31,800 lbs. of mutton, compared with 1,110,100 lbs.

For mites in the hen-house I use the dirty oil I secure when cleaning an automobile and mix with it a little kerosene. I paint the roosts, nests and coop with it. It does the work.—Mrs. J. C. S.