Soils and Crops

Address communications to Agronomist, 73 Adelaide St. West, Toronto

Question—What breeds of pigeons are best adapted for the raising of squabs for the market?

Answer—Bulletin No. 15 of the Department of Agriculture at Ottawa, dealing with the subject of pigeons, names three breeds suitable for squab production, the Homer, the Carneau and the Mondaine. The Homer is generally acknowledge to be one of the most profitable breeds for this purpose. It is a hardy breed, very active, prolific, and produces a good average weight squabs. The Carneau, originated in Flanders, has been bred for food for many generations. This breed has the habit of remaining close to the home quarters when given its freedom. It is prolific and robust and the squabs develop rapidly. The Mondaine, bred originally in Switzerland, is a utility pigeon, and is stated in the bulletin to be rapidly gaining popularity on this continent. It is a very prolific breed, and the squabs are broad breasted and well fleshed.

Question—Are there any advantages gained from warming the drinking water of hogs during the cold weather?

Answer—An experiment carried on at the Central Experimental Farm indicated two things: First, that hogs make better gains when they have before them a constant supply of water for drinking purposes, and second, that in winter the gains are more pronounced when the water is given slightly warmed.

Stock Raiser, Durham Co.—The farmers in this district grew large quantities of peas many years ago, but the coming of the pea weevil led many of us to discontinue. We desire to sow a field this year and the seed we have has an occasional infested seed. Please advise me how to treat the seed to destroy these insects.

Answer—Coal oil has been found useful in destroying the pea "bug" in the seed. About a half gallon of coal oil is sufficient to treat about five bushels of peas. The idea is to thoroughly moisten every seed so that the oil will penetrate and kill the insects. For this purpose the seed may be placed on a floor, the oil sprinkled on, and the peas shovelled over thoroughly. The shovelling should be repeated every day for at least four days, the first shovelling to be done about two weeks before sowing. It would be well, if possible, to induce every farmer in your neighborhood to treat his seed peas this spring. If this is done thoroughly there should be no "bugs" in the crop in that neighborhood for several years.

Proper Time to Hatch Chicks

It is a confirmed fact that pullets must be thoroughly matured before egg production can be expected, therefore, they must be hatched early enough to have time to mature well before the time that egg production is desired. Under ordinary circumstances, any of the general purpose breeds, such as Plymouth Rocks, Wyandottes, Rhode Island Reds, etc., require on an average five and a half to six months to mature, thus, pullets intended to commence laying the latter part of October, would have to be hatched in the month of April, while the Mediterranean Breeds, such as Leghorns, Anconas, etc., being smaller birds, can be matured in slightly less time, and could be hatched a week or two later, and still be matured ready to commence producing in the latter part of October. The care which the young growing stock receive during the summer months has much to do with having them properly matured in time for winter eggs. One breeder may hatch his birds early in April, and yet by neglect in proper feeding and exercise, may not have them as well matured in October as another breeder who hatched his birds in May, but who gave them proper care while they were growing on the range.

Again, chicks hatched too early, besides being harder to take care of early in the year when the weather is more severe, can be forced to maturity and egg production about August and September, and will exhaust a certain amount of their strength by the time that cold weather comes, with the result that they very often go into a moult, stop laying, and owing to short days of feeding, cannot regain their strength sufficiently to produce until after the most urgent demand for winter eggs is over.

A number of experiments conducted at the Lennoxville Experimental Station during the past two or three years, to ascertain the proper time to hatch stock required for profitable winter egg production, have given some interesting figures. For instance, from November 1, 1920, to March 1, 1921, 25 pullets, hatched between April 5 and April 12, gave an average profit of $3.73 per bird over the cost of their feed; while 25 pullets, hatched between May 1 and May 10 gave an average profit of $1.75 per bird over the cost of their feed. Experiments conducted during the following winter gave results that helped to strengthen the data already secured, viz.: From November 1, 1921, to March 1, 1922, 25 pullets hatched between April 7 and April 15, gave an average profit of $2.83 per bird over the cost of their feed; while 25 pullets, hatched between May 1 and May 10, gave an average profit of only $1.71 per bird over the cost of their feed. It was thought possible by some, that the later hatched lots would produce sufficiently more eggs in January and February to balance the profits of the earlier birds in November and December, but such has not been the case in any of the experiments to date. Given proper care and feeding during the summer months on a good range for exercise, the past results would justify the recommending of hatching chickens of the general purpose type, not later than the end of April, the first three weeks of April preferred, and of the Mediterranean classes, not later than the 24th of May, for the most profitable production of winter eggs in western Quebec.

Fertilizing the Orchard

Calculated from analysis an orchard producing 100 barrels of apples per acre would take from the soil 45 pounds of nitrogen, 12.1 pounds of phosphoric acid and 43.2 pounds of potash. It is found in actual practice that more phosphoric acid is required than is revealed by an analysis of the crop. Experimental results would indicate that a fertilizer carrying 30 pounds of nitrogen, 50 pounds of phosphoric acid, and 50 pounds of potash, should be furnished annually to the average orchard in bearing; one producing about 100 barrels per acre. To supply these requirements 200 pounds of nitrate of soda, or sulphate of ammonia, 300 pounds of acid phosphate, or slag, and 100 pounds of nuriate of potash per acre—giving 30 pounds of nitrogen, 48 pounds of phosphorus and 50 pounds of potash, or approximately a 5-8-8 fertilizer (one containing 5 per cent. of nitrogen, 8 per cent. of phosphorus, and 8 per cent. of potash) applied at the rate of 600 pounds per acre is advised.

Of the above elements nitrogen is the most expensive, costing 22 cents per pound, valuing nitrate of soda (15 per cent. nitrogen) at $66 per ton. Phosphorus, either in acid phosphate or basic slag, costs 7½ cents per pound, valuing acid phosphate or slag (16 per cent. phosphorus) at $24 per ton. Potash in muriate of potash (50 per cent. potash), valuing it at $50 per ton, costs 5 cents per pound. On this basis the fertilizer advised above per acre would cost for nitrogen $6.60; phosphorus, $3.60; and potash $2.50, a total of $12.70 per acre.

Nitrate of soda seems to be the most valuable nitrogenous fertilizer, due to the fact that it is quickly available and gives the fruit tree the needed nitrate early in the spring when growth should be most active and when available soil nitrates are less than at any other time. Experimental evidence supports the practice of applying nitrate of soda early in May, and not later than the 15th, thus giving a vigorous start to the early spring growth. There is some evidence to show that 200 pounds per acre in the early spring may not be too large an application. It is possible, however, that this amount applied late may produce too active vegetative growth if used on soils in a good state of fertility, thus tending to carry too great a growth into the summer. This possibility of course would be largely overcome by a cover crop to take up the excess of plant food and bring about an earlier and better maturity of fruit and tree. When applying nitrate of soda to a mature orchard of 40 trees per acre, five pounds per tree is considered ample. If trees are variable in size and vigor judgment should be exercised, as, in order to bring about average vigor, some trees should be fed less and others more than that generally advised. It may be stated that an application of one ounce to a square yard is equal to 300 pounds per acre; and that if a pound of nitrate of soda is applied to a tree with a spread of 13 feet in diameter, the tree is getting this material at the rate of approximately 300 pounds per acre.

It is difficult to measure the influence of phosphatic and potassic fertilizers, their effect being less marked than that of nitrate of soda. However, it is well known from experiments with other plants that a properly balanced fertilizer ultimately gives the best product. There is no doubt that nitrogen is the most important factor in relation to fruitfulness, yet there is a possibility that nitrogen used to excess, with a shortage of potash and phosphorus, may result in a fruit product less resistant to the effect of handling and transportation. Nitrate of soda or sulphate of ammonia, acid phosphate and muriate of potash may be mixed together and all applied at the one time.

Two pounds of stable manure per square yard is equivalent to nearly five tons per acre. If the manure has been well preserved and is from well fed stock, the average farm yard manure will contain 10 pounds of nitrogen, 5 pounds of phosphorus and 10 pounds of potash in one ton. The five tons will contain 50 pounds of nitrogen, 25 pounds of phosphorus and 50 pounds of potash, and if applied annually per acre, would furnish the orchard with its requirement of plant food. It is not easy to apply five tons per acre evenly, particularly in the orchard. In most cases commercial fertilizers are depended upon, with cover crops, to supply the humus which is so necessary to produce a good mechanical condition in the soil. Stable manure if used should be applied early and in annual quantities rather than in a heavy dressing one year with none again for several years.

Serves Public Health.

Western University, London, is accomplishing good things through its faculty of Public Health, conducted under Professor H. W. Hill. Dr. Hill has been in charge of the Institute of Public Health since 1912, except for three years spent with the same faculty of the University of Minnesota.

A Lantern That Will Not Tip Over.

A cement base cast on the bottom of a lantern will make it hard to knock over. Such a lantern will be very useful around the barn or shop. A form is made by bending a piece of sheet iron, the diameter being about three inches larger than the base of the lantern. It is also about one inch higher. In casting, the form is set on a smooth flat board, about one inch of cement is placed in the bottom, then the lantern is set in the centre on top of the cement and the space around it is filled in. A cement mixture of about three parts screened sand to one of cement is about right.

Have You a Typewriter?

Too little importance is attached to the value of the typewriter on the farm. As one farmer put it when the subject was broached to him: "Never write a letter but once or twice a year, and then I guess I can use the elephant tracks I learned to make at school." Too many men are of the same mind. Sometimes it is this small matter of writing a few neatly-typed letters which takes away the farmer's 10 per cent., and part of his good living. It is excusable when a rebuilt typewriter may be bought for a small sum? Every man with a well regulated business owns and uses a typewriter. How about it? Is your business well regulated or simply haphazard?

Probably no other single factor pays such excellent returns on the farm as does investment in quality seed.

Markets and Requirements for Export Cattle.

Feeders of beef cattle may look with considerable assurance for a strong market for properly selected and finished export beef on the hoof during the latter part of April and the first weeks of May. No very great movement can take place before that time, for the terms of the cattle embargo removal, which become effective April 1st, stipulate that all cattle must be shipped from a Canadian port. Montreal is the logical economical port for these shipments but it will not be open until about the end of April. A few shipments may go by way of Halifax or St. John in the meantime, but, on account of the high cost of rail transportation, the bulk will be held for the opening of the port of Montreal. Present indications point to a heavy demand from the British market as soon as it can be supplied.

The statement "properly selected and finished" used above is used advisedly. The British consumer is a connoisseur of beef, and his palate is not likely to be satisfied with any second rate meat, consequently if we do not wish to land this prospective beef trade into the secondary position in which we now find our bacon trade, let us start right by sending over a well graded product. Grading should be done on the basis of breding, size, finish and suitability for shipment. In the first place, an export steer should show sufficient good beef breeding that he will fill the eye of the prospective buyer on that score alone. First impressions are most lasting. Size is both for and against. Shipment being on the basis of so much per head, the heavier the animal the lower the cost of transportation. The demand, however, is for a medium sized animal. Selection should therefore be on the basis of weight for size and age, i.e., heavy little animals. The finish must be up to a fairly high standard, recently and uniformly put on. Here to a greater extent than is the case on our home market is where feeding to a high finish will be justifiable. Suitability for export shipment includes such factors as freedom from disease, or recently received blemishes; a degree of docile temperament; and last, but not least, an absence of horns, for dehorning is practically imperative for export shipping. If these few factors are kept in mind at the start and nothing but Canada's best shipped over, a steady rather than a glutted market may be looked for.—Geo. Muir, Animal Husbandman.

Simple Battery Check-Up.

Some garage mechanics are careless and some are just plain ignorant, so after one has removed and replaced the storage battery on your car or truck, check him up to see whether he has put the battery in right. If he has done it wrong, an injured or ruined battery may result. As soon as the battery is connected up, and before the engine is started, simply turn on the lights. If the ammeter indicates "charge" instead of "discharge," as it would normally, the battery is on wrong. Have it reversed at once.

My Remedy for Horse Colic.

Here is a remedy I keep in a bottle for a horse that may take the colic. I have used this remedy for years and have never known it to fail. The bottle contains one pint of raw linseed oil, one-half ounce of laudanum, and one-half ounce of nitre. As soon as the horse shows signs of colic he should be taken into a good stall, his head held high and the mixture poured down his throat. A long-necked bottle is essential for this purpose. If the animal does not get relief in an hour, repeat the dose. I have had a horse to be relieved inside of thirty minutes.—W. O. N.

Maples or oaks generally indicate well-drained land.

When you cut ham or bacon, to run lard over the exposed surface will guard it from mold.

The Scale Situation

BY R. H. PETTIT, ENTOMOLOGIST.

The fact that lime-sulphur, which served in the past to control scale, seems inadequate to the task at present, has led some of our growers to believe that a resistant race of scale has been developed—a race capable of enduring the lime-sulphur wash without being killed. The situation seems to the writer to be due to an entirely different reason.

First—Lime-sulphur kills by depriving the insect under the scale of its oxygen and it is hard to conceive of any insect acquiring the ability to get along without oxygen, any more than one could conclude that a rabbit could become immune to a charge of shot.

Furthermore, we know through rearing experiments conducted by the department of entomology at the college that a number of native parasites have started to work on the scale. Now, the battle waged between any insect and its parasites is apt to go first one way and then the other.

Once more, if we look back a few years we will remember that owing to the reduction in the activity of the scale, and to the increased cost of spraying due to cost of materials and of labor, the winter spray of lime-sulphur was put on more dilute than formerly. Everything worked satisfactorily until the parasites "knocked off" for some reason or other, and the scale commenced to multiply—then it became apparent that dilute sprays would not kill enough of the scales to keep them in subjection. It is not unlikely that careless spraying resulted as well, since most anything seemed to keep the trees clean enough to get by in good condition.

The scale is coming back, therefore, come back at it with the old-time strong application of six and one-quarter gallons of thirty-three degree Baume' lime-sulphur in fifty gallons of water and hit every part of the tree, using no spreader. Furthermore, test your lime-sulphur before diluting it. Get a Baume' tester and make sure. Put in some hydrated lime for a marker and to give the spray a little "body" and the writer feels sure that the scale will respond just as it did in the beginning.

If you prefer to use one of the oil sprays, do so. They are just as effective as they ever were and many growers prefer them largely because they spread better, and for other reasons. The "red oil" emulsions that one hears about so often are home-made emulsions of lubricating oils. If one wants to try them out and cares to use home-made sprays it is easy enough to do so, the main difficulty being in getting the potash fish-oil soap which is the one to use.

One final word—put the spray on just as late as is safe before growth starts in the spring. Since insects that have passed out of the dormant stage are much more easily killed than those which are completely dormant.

Why I Use a Drill for Small Grain.

A field is more easily and more quickly sown with the grain-drill than by hand or wagon-box seeder, since there is no stepping-off and gauging to be done—nothing to do but hitch up and drive. With hand-sowing one must step off the desired width of a round and set flags to sow by, walk and carry the seed while he sows.

The wind is bothersome when sowing grain by any of the methods except that of drilling, and a poor or streaked stand almost invariably is the result if there is a wind at sowing time. With the grain-drill, this trouble is avoided, and as even a stand is secured when the wind is blowing as when there is not the slightest breeze.

Grain put in the ground by a drill is all placed at exactly the same depth, and this is not true of another system of seeding. Where seeds are sown at uneven depths, germination is sure to be slower with some than with others. Those nearest the surface of the ground, if the weather turns dry, will not sprout at all, but shrivel up and are lost entirely.

When all is said and done it is a matter of yields and profits. Seed planted with a grain drill yields more per acre than seed sown broadcast. That is reason enough for me to use a grain drill.—M. Coverdell.

Hot Boxes on Tractor.

Last winter I had trouble with hot boxes on my tractor. I found that they were caused by the oil getting so cold and stiff it didn't get to the bearings, and the bearings ran dry and got hot. I make a practice of getting my tractor thoroughly warmed up before attempting to do any work in cold weather. After starting the motor I walk around the tractor, inspect the different parts and see that everything is working smoothly before giving my attention to other matters.—Mark Underwood.

Using Oil in Incubator.

Those using a hot water type incubator with galvanized tank which has rusted can easily avoid the trouble by using cylinder oil in place of water. Unless oil is about blood heat or little warmer, do not fill tank as full as you would with water as the oil expands more when heated than water. I could not see but what the incubator hatched just as good as when using water. I find a light body oil works best.—N. F.

PAPER AND INK

Paper is made of wood, rags, straw, etc., dissolved with sulphuric acid and made into a soup, then rolled into sheets. Ink is made of certain salts of iron, or even soot and boiled oil. In themselves they are always paper and ink, beautiful products sometimes at that. When we put ink on paper with brush or pen it means nothing unless we put thought into their use. Then they become things which make us laugh or cry, wise or foolish. Paper, ink and thought has preserved for us the records of the human race and the wisdom of the world, and has brought to us one of the greatest and worthiest enjoyments of life. Paper and ink alone have done nothing for us.

And so with farming. We have the soil, the tools and the seed. We can put the seed in the soil and use the tools to scratch around with, and we sometimes call it farming. But it is not farming until we mix with these essentials our thoughts and ideals. When we do that, farming becomes to us a profitable and enjoyable thing.

Perhaps the reason so many are failures in farming is because too many use these tools without thought, without anticipation, without ideals—because they are just paper and ink farmers.

To get any enjoyment out of paper and ink, thoughts and human impulses must be injected into their use. To get any enjoyment out of life and farming, thoughts, hopes, appreciations and ideals must be injected into them.

We live life here but once. Let's get the most out of it by being something else than paper-and-ink livers of life and farmers of farming.

The Incubator Thermometer.

"It is my idea that nothing contributes more largely to incubator failures than the failure of the operator to place the thermometer in its correct relationship to the eggs," writes a man who has had many years of experience with incubators. "The great majority of incubator users do not understand that unless the incubator thermometer is kept in a certain position with relation to the eggs, the thermometer will not register the proper temperature."

I have always held that during the period of incubation the bulb of the incubator thermometer should rest on a fertile egg, in order that the correct hatching temperature might be maintained. An infertile egg, or an egg in which the germ has died, will not be quite so warm as a fertile one, and when the bulb of the thermometer rests on an egg in which there is no life, the thermometer will register a lower temperature than when the bulb is in contact with an egg containing life.

There are different opinions regarding this, however, the same as there are about other things in connection with the operation of incubators. The careful user of incubators will, after a hatch or two, know how best to place the thermometer in the egg-chamber to get the best results. And the incubator user will learn, not only how to handle the thermometer, but everything else necessary to be known about the operation of the particular machine in use by carefully observing and following the instructions given by the manufacturer of that incubator.

Each incubator manufacturer is sincere in his desire for each one of his customers to be successful. Each manufacturer knows how his incubator should be operated to get the best results. If the instructions accompanying the incubator you are using say to place the thermometer on the eggs put it there, because that particular incubator is made for the thermometer to be placed in the position mentioned. If you have an incubator equipped with a thermometer hanger, and the instructions say to put the thermometer on this hanger, then follow these instructions, because this particular machine is so made that the correct hatching temperature can be maintained only by placing the thermometer in the incubator according to the instructions.

If all incubator users will bear in mind that the instructions accompanying each incubator should be carefully followed, and will then follow them, it is not likely that there will be any serious difficulty in maintaining the correct hatching temperature. In short, follow instructions and you will not have thermometer troubles.—R.

Another Sideline for Farmers.

Our Japanese friends are seeking out every little scheme for making their small territory contribute its maximum to the support of a dense population. Now we get this authentic news: A shipment of bullfrogs have been made from America for the purpose of providing the Japanese farmers with another sideline and at the same time provide for the destruction of many of the insects troubling in the paddy fields and truck gardens. There could be no good reason advanced why this line of production should not be encouraged in many localities right here in Ontario. Any person who has spent a single spring near some of our swamps will swear that conditions here are favorable.

Drilled oats outyield oats broadcasted.

Says Sam: When the boys begin to ask can they have the buggy to-night, that's another sign of spring.