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.

DAIRY

Dairymen generally recognize there is a marked variation in the milk and butterfat producing capacity of different individuals in the herd. On practically the same ration and care some cows will produce a large uniform flow of milk of high butterfat content, while other cows will not. In herds bred and cared for in the same manner over a period of years, cows of low milk yields and butterfat test are found along with cows of high production.

Practical dairymen know that profit from dairying depends in a very large measure upon cows of large uniform milk and butterfat production. Cows that respond at the pail to liberal feeding and proper care. Cows that can consume roughage and grain proportioned into a well-balanced ration and convert it into a good profit over cost of consumption.

The value of the dairy cow as a profit-making organization rests quite entirely upon her breeding, feeding and care. To consume feed profitably she must be bred for the purpose for which she is being maintained. She must have the capacity to consume food. Sixty per cent. of all the food the cow eats goes to sustain her body and only after this is taken care of can there be any return to the dairyman. The dairy cow must have a constitution that will endure heavy work; for she labors night and day digesting and assimilating food for milk products.

The dairy cow, to prove her value to convert roughage and grain into profitable returns must be well fed. The milk and butterfat products of the cow contain the richest and most nutritious food elements. To manufacture this highly nutritive product the cow must be supplied with a splendid quality of raw material and in liberal amounts. Her ration should at all times be palatable, appetizing, easily digestible and well balanced in essential nutriments.

Every dairyman knows that no two cows are just alike. They may be bred, fed and cared for in the same manner, yet there is a decided difference in their ability to consume food and convert it into profitable returns. To make dairying most profitable the dairyman must make a very careful study of his cows. He must understand their individual need. He must cater to their likes and dislikes. The value of a cow as a milk and butterfat producer can only be computed when she has been supplied with all the vital requirements that meet her individual needs.

I believe one of the commonest mistakes made by the average dairyman is an unwillingness to pay additionally for the cow of large producing capacity. Many a large producing cow has passed on undeveloped, simply because her owner failed to co-operate with her and supply the essential food ingredients to encourage maximum production. To work profitably the cow must at all times be in perfect condition. She must have a good appetite, a strong work digestive system and furnished with a variety of palatable feed to induce large consumption.

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.

Progress of Corn Borer Control Work.

Considerable progress was made last year in the control of the European Corn Borer. The Dominion Entomologist reports that, although the insect spread over quite a large area in 1922, the amount of spread was not quite as great as in the previous year. Last year, with co-operation between the Dominion and Ontario Departments of Agriculture, fifteen men and five automobiles were engaged in scouting for the corn borer from July 24 to September 29. A hundred and sixty-five townships, mainly in south and southwestern Ontario, were examined and forty-five found to be infested. In Kent, Essex, and Lambton the infestation proved to be extremely light, but in Elgin and Middlesex the contrary was the case. There was little spread of the insect in a northerly or north-easterly direction. Altogether the pest has made its appearance in a hundred and fifty-two townships, covering approximately 11,711 miles.

One of the control measures taken was to establish a double quarantine, which prevented the movement of corn on the cob, cornstalks, etc., from the heavily infested districts to lighter infested, as well as to any other districts. Quarantine on the movement of corn and corn products was maintained by warning notices being posted at road intersections, by banners placed so as to warn motorists not to take corn from the infested districts, and by the stationing of inspectors at Toronto, Hamilton, Sarnia and Windsor to watch for evasions in the case of shipments by any methods of transportation. At Toronto 47,000 dozen and at Hamilton 15,000 dozen ears of corn were examined and traced. A close watch was also kept on the fall fairs, and it is satisfactory to note that the public co-operated well, only six individuals being caught trying to evade the quarantine.

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.

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THE SUNDAY SCHOOL LESSON

APRIL 15.

Joseph, the Preserver of His People. Lesson Passage: Gen. 30: 22-24; 37: 2 to 50; 26. Golden Text — Honour thy father and thy mother; that thy days may be long in the land which the Lord thy God giveth thee.—Exod. 20: 12.

LESSON FOREWORD—Among the patriarchs Joseph stands perhaps only second to Abraham as regards the level of high moral personality. In to-day's lesson we may observe two of his outstanding traits. First, there is his magnanimous forgiveness. All the more remarkable does his forgiveness appear when viewed against the moral background of his own generation. His was an age which, on the whole, believed in retaliation, rather than forgiveness. "An eye for an eye and a tooth for a tooth" was its usual practice. Second, his conception of providence, in which he unifies the actions and fortunes of men with God's directing and controlling hand. To recognize that God makes even the sins of men serve his purposes without thereby lessening their moral responsibility was the solid achievement of Joseph's faith.

I. *A Noble Forgiveness*, 3-8.

V. 3. This touching scene took place in Joseph's house—perhaps in the audience chamber. (See ch. 44:14.) Judah has been interceding passionately for Benjamin (44: 18-34) and Joseph could no longer restrain his pent-up feelings. *I am Joseph.* There is a sublime simplicity in this brief disclosure. In Hebrew there are but two words—"I" and "Joseph." *They were troubled;* conscience-stricken that the brother whom they had sought to kill should be the powerful ruler.

V. 5. *Be not grieved.* Joseph uttered not a word of anger or revenge. He sought to soothe his brothers' troubled consciences. *God did send me.* He recognized a providential purpose in his life. His brothers, in selling him into Egypt had been the unconscious instruments of God.

V. 6. *The famine.* In Palestine famines were frequent because the fertility of the soil is almost entirely dependent upon the rainfall. In Egypt, however, not only is there remarkable fertility but, as Warren says, it is not directly dependent on rainfall, the annual flooding of the river Nile inundating nearly the whole land and making the cultivation of the soil, as a general rule, a yearly certainty. Sometimes, though rarely, the Nile failed to overflow and a famine ensued. One of the Ptolemies had to import grain from Syria and Phoenicia because of a famine in Egypt. *Earing;* plowing. See Isa. 30: 24. "The oxen and the young asses that ear the ground."

V. 7. *To preserve you a posterity;* leave you descendants. Had it not been for Joseph's timely aid, the whole house of Jacob might have perished with famine.

V. 8. *A father to Pharaoh.* This was perhaps an official title of the chief administrator under the king. Joseph had become a sort of vizier in Pharaoh's court. Aliens of capacity and fidelity were sometimes elevated to the most responsible positions in the state by Eastern monarchs.

II. *A Bountiful Provision*, 9-15.

V. 9. *Haste ye.* Joseph bade them haste because he longed to see his father and because, if they delayed, his father might meanwhile perish through the famine.

V. 10. *The land of Goshen.* Goshen, one of the names of lower Egypt, comprised the territory lying to the east of the Nile delta. Situated on the frontiers of the desert, it was frequently invaded by hungry nomads. It was an excellent pasture region, and since Jacob and his family were shepherds and not agriculturists, it would admirably suit their tastes and pursuits.

V. 11. *There will I nourish thee.* A Hebrew slave rising to the highest position in Egypt, drawing his family after him, and supporting them with public property entrusted to his care, may be paralleled with similar instances. Jews who rose to high offices in foreign courts were wont to show favor to their Jewish countrymen. See Esther 8, 1.

V. 12. *It is my mouth that speaketh.* He sought to allay any suspicion among his brothers that the proposal to migrate to Egypt might prove but an occasion for a new quarrel. They, themselves must surely see how earnest he was.

V. 14. Up to this point Joseph had merely disclosed himself and his plans for the future. Now he formally greeted and embraced his brothers, beginning with Benjamin. Greetings in the East are usually very polite and long drawn out. The present writer has witnessed greetings that extended about half an hour.

V. 15. Only now had the brothers the courage to speak intimately with Joseph.

Application.

The story of Joseph is full of vivid color and movement. Amid the multitude of its religious teachings let us select these:

1. The discipline and hard knocks of life may train us for useful service and ripeness of Christian character. Joseph had his share of trouble—the pit, the slave whip over his back, prison, suspicion, ingratitude—but at last the most powerful office in Egypt (let us call it the premiership) passed into his hands.

2. Two of the poisonous ingredients that filled the cup of Joseph were (a) envy, (b) ingratitude. His brothers envied him and sold him into slavery.

Martin Luther tells a story of a robin that fed regularly on some bread crumbs that were placed on the window sill. After the meal, the robin hopped to a near-by branch of a tree and sang its carol of gratitude to God for his goodness. Let us learn to be thankful to one another for help and kindness shown to us, and above all let us be thankful to God for "his unspeakable gift."

3. The story of Joseph's treatment of his brethren who had wronged him, illustrates also the noble spirit of forgiveness in a remarkable way. A disciple asked Jesus once about this matter of forgiveness. How far should it extend? How often should one forgive? The Master's reply was that there was to be no limit to the readiness to forgive, "not seven times, but seventy times seven." This is a hard virtue to practice.

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.

To prune with an axe spends more in strength than it saves in money, and you can't get a good job done. Lop shears and a pruning saw are well worth buying.

Maples or oaks generally indicate well-drained land.

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.

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.

Avoid Feeding Spoiled Silage.

We have found it wise to watch carefully the condition of the silage we are feeding. Sometimes it is frozen and it spoils faster than it is fed out. In both cases the animals receiving it suffer.

The frozen silage is found about the wall of the silo. If this silage can be pulled off in chunks, pitched down in the stable, the heat there will soon thaw it out and make it ready to feed.

Spoiled silage is especially harmful to horses and sheep, but should not be fed to cattle. One should have sufficient stock to feed off at least two inches over the entire surface of the silage each day in winter, and from three to four inches during the warm weather. Otherwise, one cannot handle the silage safely without wastage, it being necessary to throw away that portion which has become unfit for feed.—J. A. S.

Many who leap into sudden riches slip when they land.

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.

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