

## PROCEEDINGS IN FOUR DAY COURSE IN AGRICULTURE

(Continued from page 3)

should be planted in rows six feet apart and about three feet apart in the row. These will soon fill in the row. Pruning is very advisable in raspberry plants in some sections. It is better to lay them down during the winter. This is done by bending the stalks over and enough earth put on the tops to keep them down.

Courants need a strong, heavy beam or heavy sandy soil planted in rows the same as raspberries. These plants should not be cultivated in late summer or early fall, as this encourages late growth and these late growing shoots are too tender to live throughout the winter. The older wood should be pruned out every year. The bulk of the berries grow in the young wood. They are very heavy feeders and should get plenty of fertilizer. The same conditions apply to gooseberries.

**Whying—C. W. McDougall.** Clean milk is the first and most important part of obtaining pure and wholesome dairy products. The stench and unwholesome conditions of the stable are chiefly due to the imperfect system of ventilation.

**What are the best Breeds of Cattle for Dairy Cattle?**

This depends entirely on the individual and does not make any difference as regards breeds. A small top on a milk pail is much more satisfactory than a larger pail, because it does not allow so much dirt into the milk.

**THURSDAY AFTERNOON**

**Field Crops—B. T. Reed.**—The oat score—Mr. Reed taking up this subject, gave to each member of the class a score card as herein shown. The class was then provided with three samples of oats—1st, the White Irish; 2nd, the Prolific; 3rd, the Newmarket. These samples were tested for the points which appear.

On the score card it will be noticed that while No. 1 and 2 excel in some points exceedingly over the Newmarket, the Newmarket comes to a higher point of perfection than either of the first or second samples.

### Livestock Judging

At 2:35 the class proceeded to the Armory where the animals were to be judged. Mr. Robertson, assisted by W. D. Ford, inspected the various breeds of horses on exhibit. First, a Clyde stallion owned by Sheriff O'Brien was brought forward and Prof. Robertson went over the animal very carefully, explaining the different points in that particular animal, both strong and weak, which were as follows: A fine shaped head and neck, good legs, a good breadth between eyes, good well on legs, good feet of good size and shape, etc. He then explained that the width of chest and hips were not as fully developed as he would like, but on the whole a good specimen of a draft horse.

The next brought up was a heavy Clyde mare and a colt about 18 months old. Mr. Robertson was inclined to favor the mare, although older. He thought that the colt would never develop to be as good a draft horse as the mare, his legs were too long and could be much better. He also thought the colt stood poorly on them.

The next were two light driving horses of Sargeant's Livery stable. These Mr. Robertson thought very nice looking animals, but would never develop much speed. Mr. Robertson explained that by the look of a horse's head alone one could tell pretty well what kind of a body was behind it. If a long narrow head, one might be sure of a long-legged and slim bodied animal. He said that the hoofs should be wide at the top because a horse with narrow hoofs was more apt to develop ringbone and other diseases of the hoof and foot.

W. D. Ford then took Prof. Robertson's place and brought forward the sheep. He explained that the Downing specie were the best for this country. He said their fleece was shorter and thicker, and provided the animal with a warmer covering than the other longer, more open fleeced sheep. The finest wool on the animal was on its fore shoulders, getting coarser as it went back. The quality was determined by the crimp in the wool and by the thickness of it. A healthy animal's skin was smooth and pink, while a sickly one's skin was rough and of a bluish tint.

**THURSDAY EVENING**

Thursday night, Wm. McIntosh, curator of the St. John Natural History Museum and acting Provincial Entomologist, spoke on

**Plant Diseases**

Plant Diseases, he said, are responsible for a loss to N. B. farmers of 20 per cent. of their crops, and in case of some particular crops, of 50 to 70 per cent. Nowhere is knowledge of more use than in Agriculture, yet it is the hardest thing to get many farmers to attend meetings, or read free literature, or change their methods. Yet all is changing. People in the audience could remember when in Newcastle there were no telephones, no electric lights, no phonograph, no wireless and the world had no flying machines. A medical work five years old is now out of date. Last year in a St. John cotton mill a six-year-old machine good for 25 years was

thrown out to make way for a new one that would reduce cost of production a fraction of a cent a yard. Big firms paid men for going round criticizing in their plants and looking for chances of improving the machinery. If anyone criticized a farmer in his work he might be chased with a pitchfork. The modern rifle is 40 times as effective as that of 40 years ago. The Japanese ships that won the great victory in 1904 are now out of date, and in farming, too, there are remarkable changes.

The lecturer here showed two pictures—one of a log house, still found in N. B. whose owner followed no rotation of crops; left his machinery out of doors to rust; left his mature heap out of doors, where the best part of it washed away, and kept his cattle shivering in a too well ventilated barn, eating too much food. The other was the well kept Hickman farm of Westmorland Co.

To avoid losses, plant diseases must be studied. Plant diseases were generally fungus microscopic parasitic plants, reproducing themselves by somewhat seed-like spores. All fungi are not bad. One species is death to the brown-tail moth. They are trying to cultivate this in N. B.

The fly chotera kills flies.

Late blight may destroy 50 per cent. or more of a potato crop. It is worst in a wet season. It comes generally from diseased seed. The remedy is to spray from July to September with Bordeaux mixture. Leave no little potatoes or old tops on the land. Clean culture is most important.

Early blight is not so dangerous. Avoid wet soil.

Potato scab is bad in places. Proper rotation of crops kills it out. No disease of plants is general. A new kind of crop cuts off its supply of food, and the parasites starve. So with insect pests.

For potato scab, avoid alkalies, lime and wood ashes, which are good in all other cases, and use clean seed. To disinfect seed, soak it in a solution of formalin—half a pint to 15 gallons of water. Soak seed two hours. Disinfect all baskets, bags, etc.

For wheat stem rust and oat smut, soak seed in weak formalin—half a pint to 30 gallons of water—two hours and then dry it. Change the seed for the seed will have swollen a little.

Apple scab causes immense loss. Use Bordeaux mixture.

For black knot fungus, on plums and cherry trees cut off and burn affected parts. No known remedy.

Some diseases are found only in certain soils. Potatoes in high ground have no blight.

Club Root, which attacks cabbage, radishes, etc., may be kept in ground after crop is changed, if wild mustard of same family as cabbage, is allowed to grow there.

N. B. is a splendid agricultural country, and if a farmer cannot make a living here there must be a reason for it. The live farmer must be well educated in his own line.

Mr. Smith, of Toteagouche Agricultural Society, was called upon to speak. He said the secret of his success lay in keeping his land properly cultivated—absolutely free from weeds—and in using proper seed. He grew all his own seed, except clover.

He would like to see a law compelling each farmer to keep his own land clear of weeds.

Mr. Newton heartily endorsed Mr. Smith's idea. In some sections of Ontario farmers were compelled to clean weeds off their own roadsides or pay to have it done by the authorities.

**FRIDAY MORNING**

**Draining—R. Newton.**—About half the land in New Brunswick is not properly drained. This fault lays with the farmers in not understanding the use of the drain.

The government made the offering of sending around a traction ditcher. The farmers were to provide the board of men working the machine and the tiles to be laid under the supervision of the government inspector. This offer was not taken advantage of as much as the government expected. To lay a proper drain, a large tile drain should be placed through the middle of the field. Smaller drains running into it from each side, much the same as the branches of a tree. The drain not only drains off the water and allows the roots to go deeper into the soil, but also allows more air to get into the small crevices left empty by the water which has been run off. This air in the soil sweetens the heavy, damp soil part and also helps to break up certain ingredients which are used by the plant for food. A field should be properly surveyed before a drain is laid. If the drain is level in any place the fine grains of earth which go through the tilling will collect in this particular place and fill up the drain. Next year the government expects to be able to send a surveyor to go over the farms of those who have applied for drainage free of charge. They also expect to have a traction ditcher to do the work at a very low cost. What is the cost of drain per acre?—about \$55.00 per acre.

**Draining—C. W. McDougall.**—Mr. McDougall again spoke of the care that should be taken in milking. He advised holding the milking pail as close to the cow's udder as is possible to have it, and milk with convenience. Milk if cooled immediately after it has been obtained, gives a better flavor than if it is left to cool off gradually. If the cleaning and utensils are kept in perfect condition, the milk and butter will always be clean and sweet. If milk is inclined to become bitter, a little sour milk put into the sweet will turn the milk sour, and will stop the bitter taste. Of course this test applies only to butter making.

Is there any remedy for a cow that gives bitter milk?—A cow that gives bitter milk has been milking too long and should be taken out of the class of dairy cattle. This fault will not be found in young cattle, even if their mother has been affected in this way. If milk does not sour when the temperature is raised, it is not very good and should not be used any more than can be helped.

What causes milk to sour after a thunderstorm?—This is caused by the warm atmosphere caused in most cases by the thunderstorm. Mr. McDougall let the class decide the program for the afternoon, whether it would be a demonstration of separating milk, by the separation and gravity process, or butter testing. The class decided on butter testing.

**Field Crops—B. T. Reed.**—The chief difference between the different clovers is that some live for more than one year and some do not. Alfalfa is a perennial and after it has got right started it is one of the best for fodder.

The growth of clover depends largely on the winter we have before. If the winter is very changeable, from warm thaws to cold frosty spells and the snow goes down to bare spots through the winter, we may be sure of a small, poor crop the next year. A rather light, sandy loam is the best for the growth of clover.

Should potato stalks be allowed to stay on the field?—It is more to the advantage of the farmers to take the stalks off, as most of the potato diseases, particularly late blight, is contained in the old stalks.

Are wood ashes good for clover?—Yes, wood ashes supply much lime and some potash. These are two elements which are essential to the growth of clover. Most farmers make a mistake in not sowing clover seed thick enough. Where plants grow too far apart they grow heavy and rank. This produces an inferior quality of hay. Cattle should not be allowed to pasture on clover fields after the crop has been taken off. There is no better feed grown for feeding cattle than clover. It is the richest, or one of the richest plants in nitrogen that can be fed to cattle or horses.

Clover should be cut at the proper time. It is one of the best feeds we can use. If left too long standing it loses nearly all its value as a feed. Clover roots are long and the root dries so that the food they use comes from a depth that no other grain or crop used as an animal feed could reach. Clover takes nitrogen from the air and thus produces for itself the most valuable elements in feed.

Mr. Reed advised the farmers to grow their own clover seed. To grow clover seed, the first crop should be cut early, and when the second crop comes up, if you intend to let it run to seed, you should let it stand as long as possible.

**FRIDAY AFTERNOON**

**Dairying—C. W. McDougall.**—A sample of milk was taken and tested for butter-fat. This test was done by the Babcock system. A glass vial was partly filled with milk and an amount of sulphuric acid mixed with it. This changed the whole mixture to a port wine color. The vial was then put into a machine very much on the principle of a cream mixture. This caused the butter-fat to rise on the vial which was ruled for the purpose. The milk was found to be below the standard of that allowed to be sold by city dealers. Butter was then taken up. A sample was taken and Mr. McDougall explained how it was tested. This was done by means of a score card much the same as was done with the oats by Mr. Reed. The butter was found to be of a very favorable quality.

**Live Stock Judging—R. Robertson.**—At 2:35 the class again collected for the judging of cattle at the Armory. There were six on exhibition. Mr. Robertson explained the difference between the build of a dairy and that of a beef cow. A dairy cow should have a rather long, slender head, a clean-cut throat and neck, rather slender in almost all parts of the body. A beef cow should be stout and thick through the neck, head, good distance between the eyes; short, rather thick neck, and the backbone standing well up on the forequarters, making the fore-shoulders from the backbone down the legs to the shoulder take the form of a wedge.

**FRIDAY EVENING**

Friday night Wm. McIntosh spoke on Insect Pests.

Insects were very closely related to national prosperity or loss. In Australia clover could not be got to seed until bees were introduced to carry on cross-fertilization of the clover flowers. Now New Zealand and Australian clover-fed mutton is sold in Britain and Canada.

Yellow fever was destroyed in Havana when it was discovered that the disease was transmitted only by the bite of the mosquito. Malaria is transmitted only by a mosquito bite. Infantile paralysis is caused only by the bite of a certain fly. So with the sleeping sickness of Africa. What

(Continued on page 8)

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The committee appeal to clergymen, churches and organizations of all kinds and to private individuals to co-operate with contributions in and organizing sales and entertainments.

A depot for receiving food and clothing has been opened in the new Pettigill warehouse, Water street. This committee will be glad to receive clothing of all description, new or old, for men, women and children, blankets of wool or cotton, and food of non-perishable nature that can be transported to Belgium.

Shipments from outside points to the Belgian Relief Committee will be handled by the railways free of charge. Information as to the plans of the committee will gladly be furnished any desiring to assist by the secretary, G. E. Barbour, St. John, N. B. Telephone Main 216.

The local Branch of the Red Cross Society will receive all contributions to the Belgian Fund at the Town Hall on Tuesday evenings.

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