

drastic. If the fungus appears on only a twig or limb that is enough to cut off and burn.

Chapter XIII., pp. 116-167, is devoted to the science of feeding live stock. It treats with considerable fulness and satisfaction, although in composition too difficult for school children, the anatomy, physiology and chemical composition of the animal body; the classification and constituents of the staple feeding-stuffs; production of flesh, fat, bone, milk and animal heat; nutritive ratios and feeding standards. The six or seven pages of "practical remarks" in fine print, sections 361 and 370, will be found very useful reading for the farmer.

The chapter on the management of stock is less technical. The author applies the law of animal development as follows:—

"It is a law of animal development that the further the animal gets from birth the smaller is its gain of substance per day, and the greater is the amount of food required to produce a pound of flesh or fat. But, because of inattention to this law, thousands of dollars are lost by the farmers of Ontario every year. Feeding for meat production (except in the case of milking cows or working oxen) yields but little profit (if, indeed, it yields any) after the animal is matured. Hence the object of the feeder should be to obtain as great a gain as possible during every part of the period of the animal's immaturity. The food fed to growing animals in winter in quantities too small to increase their autumn weights is, in nearly every case, wasted."—Page 168.

Readers of the Proceedings of the Dairymen's Association of Eastern Ontario will remember a very forcible presentation of this subject from another point of view, by Gov. Hoard, at the Belleville meeting.

This chapter, after discussing the proper treatment of young and mature foals, calves, lambs and swine, concludes with the following rules for curing pork.

"(1) The killing should be done when the weather is cold, and the carcass should be allowed to stiffen before it is cut up for salting.

"(2) But, before it is cut up, the carcass should not be allowed to become frozen through, or it will not readily take in the salt.

"(3) When the carcass is cut into pieces, sprinkle salt on a clean floor in the cellar, or on a temporary table of planks or boxes arranged there, and place on it a layer of the pieces.

"(4) Then to each of the pieces apply powdered saltpetre, at the rate of two or three ounces to every 100 pounds of pork, and follow this with a thick layer of salt. Then lay down a second layer of pieces, and apply saltpetre and salt as before. Proceed in this way till all the pieces are taken.

"(5) In about ten days repeat the salting process, but without using saltpetre. Then allow the pork to remain in the salt for from four to six weeks, according to the thickness of the meat.

"(6) When this stage is completed, brush or wipe off the salt, and hang the pieces in the kitchen, near enough to the stove to quickly produce a dry skin. When this is formed, remove the pieces farther from the stove, and allow them to hang until they are thoroughly dry.

"(7) Then hang them for storage in a cool, dry place, from which all flies are kept away."

The chapter on dairying is short, but very practical. The deep-setting of milk is recommended, and it is urged that the milk be not lower than 90° F., even though hot water (150° to 180°) has to be added to raise it to that temperature, when the cans are set in cold water. Speaking of salt for cows:—

"It has been proved by experiment that cows, when salted only once a week, will generally give from 14 to 17 per cent. less milk than when they have free access to salt every day; and the milk from irregularly salted cows is not so good as that from cows which have a constant supply of salt. It sours sooner, and is otherwise inferior in quality. Hence the importance of placing ordinary granular salt in stables, and under cover in fields, in such a position that milch cows can have access to it at all times."

The thirty-eight pages devoted to breeds of live stock are profusely illustrated. They give a short history and description of each of the principal breeds of horses, cattle, sheep and swine.

The foregoing quotations from the Text-book on Agriculture and description of its contents will illustrate its practical character and doubtless stimulate farmer readers to desire to peruse its pages, from first to last.

* It takes two per cent. of the live weight to support the weight * * * *. A hog weighing 300 lbs. must consume six lbs. a day to keep his weight good * * * *. When a man sells two hogs at 150 lbs., he makes a larger profit on the cost of production than when he sells one at 300 lbs.—Report of the Dairy and Creamery Associations for 1889-90. Page 110.

Notes on Back Numbers.

BY WM. THOMPSON.

IS IT PLAYED OUT?

"That the day of grain raising has gone by is a fact that certainly has received stronger confirmation than ever, for while grain crops all over Ontario last fall, as a rule, showed a very light yield, prices have been as low as ever, and the question, therefore, now before us is, Can this deficit in the returns hitherto received from the sale of grain be made up in any other way? and if it can do the events of the past year warrant us in believing that part of this deficit can be made up by horse breeding?"—"Blue Blood," in September ADVOCATE.

Friend "Blue Blood" has given us some slashing letters, but when his zeal on behalf of horse breeding causes him to assert point blank that the day of grain raising has gone by in Ontario, and the statement is heralded to the world in the FARMER'S ADVOCATE unchallenged, I beg to dissent. More power to "Blue Blood's" elbow in his commendable effort to raise the standard of horse breeding in Ontario; but to improve provincial agriculture in one direction he should not defame it in another. Why raise this doleful cry which outside detractors of the province may make a handle of? A late report to the Provincial Bureau of Industries makes this statement: "She (Ontario) is the most productive of all the states and provinces on this continent." Official statistics in the main verify this glowing declaration. Take, for example, fall wheat, spring wheat, barley and oats, and pit Ontario against the best of the grain-growing states of Yankeeland, in which these cereals are staples:—

Fall Wheat—Ontario's average for the eight years (1882-9) was 19.4 bushels per acre, 3.8 ahead of the highest state. The last ten-year average, compiled for the whole Republic, was 12.3. Ontario's 1890 average was 19.8.

Spring Wheat—Ontario's average for the eight year period was 15.6 as against 14.7, the record of the highest state.

Barley—Ontario sweeps the field—barley yields, the average for the period mentioned being 26.2 as against 24.8 across "the lines."

Oats—Here, again, Ontario tops the list with 35.3 for the years 1882-9, as against 34.6, the best our neighbors could do.

Surely this is not a bad showing for the productiveness of Ontario soil! When "Blue Blood" has sufficiently boomed horse breeding, let him turn his trenchant pen on improved methods of cultivation, and probably we can do still better. A general rush, either into horses, hogs or grain, all over Ontario would be most unwise, and on this point I see Mr. J. C. Snell, in his very suggestive letters, warns farmers against putting all their eggs into the one basket. Conditions and other points considered, let the farmer select the line or lines likely to be most profitable, and then work them intelligently for all they are worth.

ANOTHER HERD BOOK.

Of the making of Herd Books there is no end. One of the latest proposals is one for dairy cows—favorably considered at a meeting of the British Dairy Farmers' Association recently. At the meeting in question what was described as the "unpedigreed Shorthorn Dairy Cow" was highly extolled. A speaker at another society meeting, which endorsed the dairy herd book idea, gave his notion of a dairy Shorthorn cow as "an animal (pure-bred or not) that will yield

800 and upwards imperial gallons of milk per year, producing a calf every year; a lengthy beast with good open back, good touch, one that will readily feed to 60 stone (14 lbs. to a stone) of beef when dry." By the way, I hear that a herd of these dairy Shorthorns will shortly appear in Canada. Then will come the tug of war for dairy test properties.

OUR HERITAGE OF HEALTH.

Apropos of Texas Fever, Pleuro-Pneumonia et al., Canadians do not half appreciate the priceless boon of healthy herds of live stock. In Britain since Sept. 1st, 1890, there were thirty or more outbreaks of "pleuro," and under the provisions of the new act for stamping out that plague, between 3,000 and 4,000 cattle have been slaughtered. More than once English farmers have had their whole herds destroyed. It is no wonder they decline to take the risk of fresh contagion by permitting unrestricted importations from every quarter. By the way, here is a bit of testimony from that careful and candid observer, Prof. Robertson, on returning from a tour of all Canada. It will interest ADVOCATE readers, and some of its contemporaries as well:—

"Careful enquiry failed to elicit information of a single instance of any dangerous contagious disease in existence throughout the whole area of our Dominion."

THE NEW TEXT-BOOK.

Of the contributions to the December ADVOCATE, perhaps none excited a more keen interest than the review, by Inspector Dearnness, of the new Agricultural Text-Book for Ontario public schools. As an advanced educationist, he sets in view what he regards as the weakness of the book. Of course perfection was not expected at a bound, and the volume is surely a great advance in many ways on what text-book makers used to give us. The authors, too, had a new and confessedly difficult task. The present "light binder" did not take its perfect form in a day. There is an evolution of text-books and educational methods, but in this important study I trust the boys and girls will not again be subjected to the distasteful and detrimental methods of the past. Success or failure will largely depend on the skill and knowledge of the teacher. It strikes me an error has been made in prescribing the first 70 pages, containing so much of chemical and other technicality, as a subject for the high school entrance examination. (The subject is, however, optional.)

Would it not have been better to begin with the crops of the farm, breeds, the illustrated chapter on live stock, etc., explaining technical terms and principles as required from time to time, thus leading from the known to the unknown? In such a wide fund of excellent information, it struck me as singular to find that the book did not deal with fruit and flower culture, which surely would be happy school-room topics. Leading English and American farm papers have given the book a favorable reception.

THE BATTLE OF THE BREEDS.

"Observer" hurls another shot into the Holstein camp, and a fusillade of breeders all along the line may be expected. Permit a suggestion, gentlemen, on behalf of the general reader: That all combatants in this inky warfare drop *nom de plumes* and give battle over their own signatures. Then we will know who's who. It was, perhaps, a slip of the pen, but "Observer"