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The Grasshoppers are Being Watched.

Since early in the spring of 1898, specimens of the true Rocky Mountain locust have made their appearance in different sections of the country bordering on the Turtle Mountains. Dr. Jas. Fletcher, Dominion Entomologist, has on several occasions visited the localities, identified the species, and advised as to the best means of preventing the increase and spread of these hoppers. In the *Advocate* of October 5th, 1898, and again of July 5th, 1899, appeared lengthy articles from the pen of Dr. Fletcher, describing the nature, characteristics and habits of the locust, and referring to the condition in which he found them at the time of his visits. In June last, Prof. Luggler, State Entomologist of Minnesota, an authority on grasshoppers, accompanied Dr. Fletcher, and to him some of the American newspapers credited a sensational statement that the Turtle Mountains were a permanent breeding-ground for the locust, and that there was imminent danger of an invasion into the wheat fields of Dakota and Manitoba. The railway companies and other large land-owners took fright, and appealed to Washington for a thorough investigation. The Entomological Department immediately sent Prof. Hunter, of the Department, to the scene of action. He, accompanied by Hugh McKellar, Chief Clerk of the Department of Agriculture, spent several days in the Boissevain and Deloraine districts, and the Professor continued his investigations throughout the Turtle Mountain district on both sides of the international boundary, and also visited other localities where grasshoppers were reported.

While the injurious species (*Melanoplus spretus*) exist in several localities, there is no great cause for alarm, providing the farmers exercise due precaution in fall-plowing stubble land and following the advice given by the scientists. Investigation does not show the Turtle Mountains to be a particularly favorable spot for breeding grounds.

Stacking Grain.

To most of our readers it may seem that the last word has been said about grain-stacking, more particularly as the severe lessons taught by the losses of last season are still fresh in the minds of most people. There are, however, in this new country a large contingent of newcomers who have had little or no previous experience in stacking grain. There is little or nothing new to be said about stacking grain, but for the benefit of those who have not had much experience we will try, briefly, to describe the method that, if properly carried out, will make safe stacks. Judging from past experiences, it is very unwise to count on dry weather; when stacks are built it is better to build them so that they will turn rain, as it takes no more time to build a good stack than a bad one. The one essential that must never be omitted is a full heart. Some build long, narrow or oblong stacks, and, of course, more grain can be put into the inside of such a stack, away from the weather, than in the ordinary round stack. It is well, where there are many weeds in the crop, to have a stack yard conveniently situated, and with an unbroken sod, so that all the dirt is drawn onto one spot, where it can be burned. It is customary to build four or six round stacks for a "setting" that is, one placing of the threshing machine. Six stacks

placed thus, , can be handled very conveniently. There should just be room for the separator to draw in between the two lots, the third stack on both sides built close to the others, to be forked on to whichever one wind and circumstances make most convenient.

Beginning a round stack, start with a round stook in the center, continuing the stook, keeping the sheaves as upright as possible, till the foundation is large enough. In this way no heads touch

the ground to get damp, and an even foundation is given, which makes the stack less liable to slip out when building, and less liable to lean when settling. Before beginning the regular outside tiers it will likely be necessary to lay some extra sheaves in the center to bring it up full, and keep all sheaves on the next tier sloping downwards towards the outside. Now begin a layer of sheaves round the outside, laying the second row at the same time, and placing the butts of the second about to the band of the first. The staker should keep his weight off the outer row, and in laying the inside rows continue round and round systematically, laying one row at a time as closely together as possible, stepping on each sheaf as laid, each course overlapping the one below about to the bands, or sufficiently to keep the center well above the outside row. Thus the outside will settle more than the center, as it will not be so compact and solid, and all sheaves slope downwards and outwards. By putting on a bulge—that is, letting the stack out a little larger each course till high enough for the take-in—more grain can be put under the same roof than if the stack is built with straight sides. At the "take-in" be sure and have the center full. Continue as before, taking in each course a little, and keeping the heart very full. The butts of the sheaves become set in the stooks, and by a little care in placing them with the slope downward on the outside roof tiers, a very smooth, neat job can be made, and if the heart is always kept full there will be little danger of wet getting in. Every course of sheaves should be continued systematically to the center of the stack: it makes the stack more solid, and more stuff can be put in than when merely a pile of sheaves are thrown into the middle. It is not necessary to carry the stack very high, or make a roof like a church steeple. A sharp-pointed stick about four feet long run down through the cap sheaf will hold it on and let in no water.

Weeds.

"It's an ill wind that blows nobody good," and one very great consolation for the lateness and backwardness of last spring is the general freedom from noxious weeds of this year's crop. The late working of the soil killed out the weeds which had at that time germinated, and thus pretty well cleaned the surface soil. Let no one delude himself, however, with the idea that because his crops are clean this year that he has annihilated the enemy, for the chances are ten to one that 1900 will be as favorable to weed growth as this year has been adverse. If possible, disk harrow the stubble early in the season while there is still warmth enough to cause the seeds to germinate; it is little use late in the season. What fall plowing is to be done, let it be done early, and let every furrow be turned as if in a plowing match; better five acres well plowed than ten slurred over. One of the greatest agencies for spreading weeds is the want of fences to prevent stock wandering over the stubbles, scattering weed seeds broadcast. Feeding at the chaff piles and heaps of weed seeds (that should be destroyed) left from the threshings, the manure is full of uninjured seeds. Good work has been done and is being done by many agencies in suppressing the noxious-weed nuisance. Still, weeds are spreading, and nothing but eternal vigilance on the part of every individual farmer will ever hold them in check.

Cream Separation.

To defective methods in cream raising or cream separation, as it is called, can be traced the most constant and serious of all the losses that occur in buttermaking. Dollar after dollar is steadily running away just as certainly as if they were slipping through a hole in the dairyman's pocket. And the aggravating feature of it all is that the losses are easily and cheaply preventable by the application of a little knowledge. Getting practically all the cream out of the milk in good condition is at the

foundation of success in buttermaking, and we therefore gladly give space in this issue to the comprehensive, practical and clear-headed communication from Mr. J. W. Mitchell, Superintendent of the Dominion Government creameries, Assiniboia, N. W. T., which is a valuable contribution to the dairy literature of the day. The raising of cream by deep-setting cans, shallow pans and centrifugal separation is forcibly presented and contrasted, and we look for another letter from Mr. Mitchell dealing further with separator management in order to obtain the best results.

The Annual Report of the Territorial Department of Agriculture.

The first annual report issued by the Department of Agriculture of the Northwest Territories has recently come to us off the press. It is a pamphlet containing 100 closely-printed pages, including a survey of the present conditions of the agricultural and pastoral interests, and also referring somewhat to the transactions of the Department for previous years. There is much in the pamphlet that is most interesting and instructive reading, and a copy should be on every farmer's book-shelf for future reference. Copies can, we presume, be had on application to the Department, Regina.

The benefits that may accrue to the farmers from accurate agricultural statistics are pointed out, the difficulties of securing such in so vast a territory where settlements are widely scattered are referred to, and the plan adopted by the Department described, i.e., to obtain reports of actual results from threshing-machine operators. For the purposes of this work, Assiniboia, Alberta, and Saskatchewan are divided into sixteen districts. Statistics of the crop of '98 are given in tabular form, showing the total yield of the Territories to have been as follows: Wheat, 5,542,478 bushels, an average of 18 bushels per acre; oats, 3,040,307 bushels, an average of 28.93 bushels per acre; barley, 449,512 bushels, an average of 26.29 bushels per acre.

The scheme that is being evolved for carrying on agricultural experimental work is also outlined fully. This has previously received considerable notice in the *Advocate*. Several pages are devoted to the important subject of meteorology. To noxious weeds seven or eight pages are devoted, and reports are published from each of the eleven district weed inspectors. Reference is also made to the gopher pest. Dairying is referred to, and the statistics given. In this connection the report says:

"The greatest obstacle to successful dairying in the Northwest Territories at the present time is the absence of good dairy cows, and it is worthy of consideration whether some organized effort could be initiated by agricultural societies, or the creamery patrons themselves, having in view the importation of thoroughly good milking cows from the Provinces of Ontario and Quebec, to be sold to patrons of creameries or such as signified their intention to become patrons, at cost price, landed. The scheme for the importation of pure-bred bulls, referred to under a different heading, should be a valuable factor in the improvement of the dairy stock of the Northwest, but the correspondence with intending importers up to date reveals a disappointing lack of interest in the importation of thoroughbred dairy sires.

"A great deal of discussion has recently taken place in the agricultural world regarding the evolution of the 'dual purpose' cow. This is precisely the animal required in the Territories. It is found almost as difficult to induce ranchers to engage in dairying as to persuade the wheat farmer to patronize the local creamery. If such an animal as the dual purpose cow can be successfully produced as a breed, this difficulty would, to a very large extent, be overcome. The statement has, however, been made that such an animal has existed for generations in Ayrshire, Scotland. The practice of Ayrshire dairy farmers is to purchase young and well-bred Ayrshire milk cows and to cross them with a Shorthorn bull. Although the first cross is a fair milker, it is evident that the tendency of such operations is to breed into beef and out of milk, and the general practice is, therefore, when the cows, through old age or otherwise, become unprofitable, to send them to the block and purchase younger stock of the same breeding to take their places. The steers produced from the Shorthorn-Ayrshire cross are thought very highly of by the butchers. Great things are claimed for the milking strains of Shorthorns, and it is probable that this animal combines the beef with the dairy qualities."