

Our Scottish Letter.

After an abnormally dry season, farmers are now busy harvesting. The weather has broken, and heavy thunderstorms have been general throughout the country. This has retarded harvest work, but greatly facilitated the growth of the root crops and grass. I saw some magnificent fields of turnips on very high land in the historical territory of Sheriffmuir to-day, and the rain has come in time to put heart into the buyers at the store-lamb sales. The future of this trade may not be as bright as it was last year, but it is certainly ever so much brighter than it was a month ago. Foggage is scarce in the South, and English buyers are not operating to any appreciable extent at the sales. Scottish buyers are, however, doing their best to make up for their absence, and prices are going the right way for all parties. They are, however, much lower than last year's rates, and in no case can the flockmaster expect a bright year. The grain crops have a heavy head, but straw is bulking poorly, and the self-binders are at work everywhere. Had the rains and storms kept away, this would have been an ideal year for the self-binder, the straw standing well up and not too heavy.

The autumn so far has been fruitful in meetings of all kinds of learned institutions. By far the most notable of these events, from an agricultural standpoint, was the Congress on Tuberculosis, which met in London. Your Professor MacEachran was one of the members, and aired his well-known views on tuberculin and the test conducted by its means. The great event of the Congress, however, was Dr. Koch's startling announcement that bovine tuberculosis and human tuberculosis are not the same disease; that the disease is not communicable from animals to man. It would be impossible to exaggerate the consternation to which this wholly unexpected deliverance has given rise. It is right in the teeth of every kind of accepted theory on the subject, and no one can tell where it may lead to. For one thing, if it were established as a correct thesis, the alarms of the past few years would soon subside, and saner counsels bear sway in all communities. Dr. Koch's view is flatly opposed to current ideas, and should it prevail, it will follow that much restrictive legislation will need to be revised, and not a little harassing of the agricultural interest will be mitigated. At the same time, few hereabout are prepared to accept the new theory as an accurate representation of the case. The need of accurate and independent experiment is everywhere recognized, but our Government is terribly slow to take action in connection with such matters, and in the end we will likely be indebted to Southern parties for anything we may know of a definite and conclusive character. One good effect of the deliverance has been to moderate the demands of unreasonable inspectors. Some of them are prepared to maintain that they know better than Koch, and no doubt the German scientific man is scared, but, altogether, he had a cordial reception, and the Congress of 1901 adjourned without doing anything very special or making recommendations which may be generally followed. A Veterinary Congress has also met in Edinburgh, and very much the same kinds of subjects have been dealt with in the North as in London. The most notable answer to Koch so far has come from Professor MacFadyen, the head of the Royal College of Veterinary Surgeons. His analysis of Koch's reasoning is admirable and leaves us in no doubt as to the precise effect of the work in which local authorities here are engaged when endeavoring to combat tuberculosis. That work must go on, as it has mainly been directed to improving the sanitary condition of byres and their surroundings. Cleanliness and fresh air are indispensable to successful dairying, and they are also inimical to this disease. The moral, therefore, is, relax no effort to put milk on the market of absolute purity, and rest assured that healthy bodies are the best protection against this disorder.

When the Hon. Sydney Fisher arrived here some time ago, he intimated that he was prepared to give full information to all parties regarding the health of cattle in Canada, and he specially emphasized the fact that there is no pleuro-pneumonia in Canadian cattle. The parties chiefly interested have, since the date of this information, been very active in working up an agitation in favor of repealing the Act which made it impossible to import store cattle from over the sea. The most formidable aspect of the movement has been presented this week, when a meeting of representative farmers from the feeding districts, with members of the Harbor Trusts of Glasgow, Dundee and Aberdeen, and Canadian ship-owners, was held in the City Chambers, Glasgow. It was a well-conducted meeting. Lord Provost Chisholm presided, and the meeting had a kind of official status, having been organized by the sub-committee of the Local Authority of the City of Glasgow. The farmers who spoke are well known for their advocacy of advanced economic measures in land-holding and cultivation, but they rather overstated the case in favor of the Canadian stores.

Readers of this letter will be interested to know what prospect there is of the status quo being modified to meet the case of Canadian cattle. It would be folly for me to deny that in my opinion no hope whatever need be entertained that the Act of 1896 will be meddled with. It is generally admitted that Canada has a clean bill of health, and that the restrictions might be removed tomorrow so far as Canada herself is concerned. The difficulty is that no one seems able to see how it would work to differentiate Canada from the rest

of the world. [Except on grounds of high political expediency no reason exists for differentiating, and breeders in Canada would do well to abandon all idea of reviving the trade in stores. Although they are as a rule wealthy farmers in good districts who favor the introduction of Canadian stores, they are in a hopeless minority, and the overwhelming proportion are breeders who desire the security which the Act gives of immunity from disease, and this enables breeders to extend their labors in that particular direction. There is a big market here for all kinds of fat cattle, and Canada seems to be making a good job of sending such to this country. Let her adhere to this trade, which hits our farmers sorely enough, but they must bear that. It will take very strong evidence indeed to convince the British Parliament that it should repeal an act passed in 1896 at the expiry of five years.]

"SCOTLAND YET."

DAIRY.

Lessons from the Model Dairy.

The subject receiving most attention at present in the model dairy barn, Pan-American Exposition, is that of TWO VS. THREE MILKINGS A DAY. Since the falling off in milk flow incident to the excessive heat and flies, as well as to the natural shrinkage from advanced period of lactation, it is the belief of every herdsman in the barn that two milkings only would be conducive to better results, in that the animals would have more opportunity to rest in the evening when the noisy throng of people is gone and the flies least aggressive. More time to rest and make milk would seem better so long as the total quantity given for the 24 hours is not enough to be burdensome or painful when carried for one-half that time. Besides, it would seem more reasonable to conduct the test on lines practicable by the dairy farmer rather than on lines of an occasional test for high records.

Canadian authorities in charge of the test claim that the owners of all cows from that side wish their cows milked three times a day throughout the test, and orders have been issued to the herds-men accordingly.

It would seem to the writer, however, that some of these owners have not been made acquainted with all the circumstances and conditions at the model dairy, or they might feel differently about it.

Some of the American herdsmen would have gone over to two milkings some weeks ago, except for the fact that this plan would increase the duties of the men who weigh and sample the milk, so long as some continued the three milkings, and the good-will and courtesy existing among all the herdsmen tended to delay any change which might disturb any neighboring herd in the barn at an unusual or unnatural hour.

Up to a short time ago there was some assurance of a change to two milkings by all, but with this gone, some of the American herdsmen have finally made the change. About a week ago the Polled Jersey herdsman began milking one cow only twice, with such satisfactory results that yesterday (Aug. 21st) the Dutch Belted, Brown Swiss and Polled Jersey herdsmen adopted the plan with their full herds, and one Guernsey cow was put in the twice-a-day plan.

The yield of milk from these herds for the day has been quite satisfactory, and it is not at all unlikely that all the Americans will have adopted the plan by another week.

For nearly three weeks the weather has been very favorable to man and beast, until Tuesday, the 20th, when the hot wave struck us. The cows are suffering a good deal from the heat and there is quite a noticeable loss in milk in consequence. As was observed in previous hot spells, the lactometer tests show a less per cent. of solids not fat in milk, the drop being quite striking in some cases.

THE COMPOSITE TEST.

The men in charge of the testing department have for some weeks been carrying on a series of tests of each milking of the five cows of some herd for a full week corresponding with the week for which the composite test is accumulated. The latter method being the official one in this test, it is interesting to note how nearly this agrees with the fat for the week as shown by the sum total of products of milk and test for the 21 milkings of the week.

This work has been completed for a week with each of the following breeds: Shorthorn, Holstein, Ayrshire, Jersey, and Guernsey.

Besides the data thus furnished to further establish the correctness of the composite method of sampling (when properly done), the tables will be interesting in showing the variations and fluctuations in per cent. of fat from day to day and milking to milking.

The publication of these tables by a paper which reaches such a number of dairy farmers and patrons of creameries should be of great practical value, as the composite method of sampling and testing milk is the usual one in creameries and cheese factories.

For the herd of five Ayrshire cows the total difference in yield of fat for the week when calculated by the two methods was but .26 lb. The method of testing each milking would mean 105 tests, while the composite required but five. Composite samples here are all tested in duplicate, and when a variation of more than one per cent. occurs another test is made from the jar. Up to date, from May 1st, in all the testing of the ten herds weekly, but seven cases have occurred where a second trial was required.

TESTS OF EACH MILKING FOR THE JERSEY COWS FOR ONE WEEK COMPARED WITH COMPOSITE FOR SAME PERIOD.

	Gipsy of Spruce Grove.			Primrose.			Queen May.			Rexina.			Mossy of H.		
	Lbs. milk.	Test.	Lbs. fat.	Lbs. milk.	Test.	Lbs. fat.	Lbs. milk.	Test.	Lbs. fat.	Lbs. milk.	Test.	Lbs. fat.	Lbs. milk.	Test.	Lbs. fat.
Aug. 7—noon	9.1	5.2	.4732	8.1	6.9	.5589	9.4	6.	.5640	10.6	5.6	.5936	10.1	5.2	.5252
—night	9.6	5.1	.4896	7.3	6.	.4380	8.7	4.7	.4089	10.	4.9	.4900	9.4	4.2	.3918
“ 8—morning	10.4	4.1	.4264	9.9	5.8	.5742	10.9	4.5	.4905	11.4	3.7	.4218	11.7	3.8	.4446
—noon	10.4	5.1	.5304	8.8	6.5	.5720	9.5	5.6	.5320	10.	5.6	.5690	10.2	4.9	.4998
—night	9.1	4.8	.4368	7.3	5.4	.3942	8.4	4.7	.3948	10.3	5.2	.5356	9.9	5.	.4950
“ 9—morning	10.8	3.8	.4104	10.1	5.3	.5353	11.1	4.2	.4662	8.	2.5	.2000	10.9	2.6	.2834
—noon	10.	4.8	.4800	8.4	6.5	.5460	8.8	4.7	.4436	9.5	4.7	.4465	11.1	5.	.5550
—night	9.	4.	.3600	6.7	5.	.3330	9.3	4.8	.4164	8.4	3.8	.3192	9.1	4.1	.3731
“ 10—morning	11.2	4.	.4480	10.	5.4	.5400	10.5	4.3	.4515	11.4	2.9	.3306	10.8	3.	.3348
—noon	9.4	4.6	.4324	8.3	7.	.5810	9.	4.6	.4410	8.9	3.5	.3115	10.6	5.4	.5724
—night	8.6	4.3	.3608	8.1	6.3	.5103	9.4	4.8	.4512	9.1	3.5	.3185	8.6	4.2	.3612
“ 11—morning	9.6	3.7	.3552	8.8	5.6	.4928	11.1	4.5	.4995	10.9	2.9	.3161	10.5	2.8	.2940
—noon	9.9	5.6	.5544	8.	6.2	.4960	9.	5.4	.4890	10.6	5.9	.6254	9.2	4.2	.3864
—night	8.2	5.3	.4346	6.	4.6	.2760	9.1	5.2	.4732	8.7	5.2	.4524	9.4	5.	.4700
“ 12—morning	10.3	3.6	.3708	10.8	6.5	.7020	11.3	4.6	.5198	11.4	3.7	.4218	10.2	3.4	.3468
—noon	10.3	5.9	.6077	7.4	6.9	.5106	9.6	5.4	.5184	9.7	4.6	.4462	9.4	5.2	.4888
—night	8.4	5.2	.4368	7.6	6.4	.4864	8.6	4.8	.4128	2.6	2.8	.0728	9.7	4.1	.3567
“ 13—morning	10.8	4.1	.4128	9.	6.2	.5580	10.8	4.5	.4860	16.6	3.8	.6308	11.1	4.1	.4551
—noon	9.	4.8	.4320	4.8	4.1	.1968	9.3	5.3	.8025	10.7	7.5	.8025	10.6	7.3	.7738
—night	8.1	3.9	.3159	7.	4.	.2800	9.	4.8	.4320	9.3	4.8	.4464	9.4	4.8	.4512
“ 14—morning	10.7	3.9	.4173	12.3	7.4	.9102	10.9	4.4	.4796	10.9	3.	.3270	10.6	3.8	.4028
Totals	202.9		9.2245	171.7		10.4937	203.7		9.8333	209.		9.0687	211.5		9.2619
Test computed from daily wt. and tests ..	4.541			6.061			4.822			4.32			4.38		
Composite test and fat from same	4.5	9.1305		6.1	10.656		4.85	9.8794		4.4	9.196		4.4	9.306	

TEST OF EACH MILKING OF AYRSHIRE COWS COMPARED WITH COMPOSITE METHOD FOR SAME PERIOD.

	Kirsty Wallace.			Lady Flora.			Betsy 1st.			Alice 2nd.			Pearl of Woodside.		
	Lbs. milk.	Test.	Lbs. fat.	Lbs. milk.	Test.	Lbs. fat.	Lbs. milk.	Test.	Lbs. fat.	Lbs. milk.	Test.	Lbs. fat.	Lbs. milk.	Test.	Lbs. fat.
July 31—noon	9.2	3.9	.3588	8.6	3.7	.3182	10.2	4.4	.4488	8.3	5.1	.4233	9.3	5.1	.4744
—night	9.9	3.5	.3165	8.4	3.6	.3024	11.	3.6	.3960	8.5	4.6	.3910	9.5	4.	.3800
Aug. 1—morning	12.9	3.6	.4644	9.6	3.4	.3264	13.7	3.4	.4658	10.4	3.6	.3744	12.1	3.4	.4114
—noon	10.6	4.	.4210	7.3	4.3	.3139	11.1	3.7	.4107	9.8	4.8	.4704	10.5	4.6	.4830
—night	10.	3.9	.3900	8.1	3.6	.2916	11.3	3.2	.3616	8.7	4.	.3180	10.3	3.8	.3914
" 2—morning	12.4	3.7	.4588	10.9	3.3	.3397	14.8	3.4	.5032	11.4	3.6	.4104	13.4	3.3	.4122
—noon	11.1	4.	.4440	8.9	3.4	.3026	11.	3.8	.4180	10.3	5.1	.5253	10.8	4.3	.4614
—night	10.7	3.8	.4066	9.6	3.4	.3264	11.7	3.6	.4212	9.3	4.2	.3906	11.8	4.3	.5074
" 3—morning	11.	3.6	.5040	12.5	3.5	.4375	14.9	3.5	.5215	12.2	3.8	.4636	13.5	3.3	.4455
—noon	11.1	4.4	.4834	9.7	3.7	.3389	10.7	4.	.4280	9.4	4.5	.4230	11.	4.5	.4950
—night	10.7	3.7	.3959	10.2	3.1	.3162	11.1	4.	.4440	9.3	4.4	.4062	10.2	3.1	.3162
" 4—morning	14.	3.4	.4760	13.	3.2	.4160	13.7	3.	.4110	11.8	3.5	.4130	14.6	3.7	.5402
—noon	11.1	4.	.4440	10.	3.5	.3500	10.6	3.7	.3922	9.8	4.5	.4416	10.8	4.6	.4968
—night	10.7	3.8	.4066	10.6	3.2	.3392	11.8	4.	.4720	9.5	4.3	.4085	10.4	3.4	.3232
" 5—morning	13.4	3.3	.4422	12.8	3.4	.4352	13.9	3.4	.4726	11.7	3.7	.4329	14.1	3.4	.4794
—noon	12.4	4.1	.5084	10.7	3.3	.3531	10.7	3.6	.3852	9.9	3.8	.3762	11.5	4.9	.5635
—night	11.1	4.	.4440	11.1	3.3	.3663	11.7	3.8	.4446	9.9	3.5	.3465	10.8	3.9	.4212
" 6—morning	13.3	3.8	.5054	13.4	3.5	.4690	14.2	3.6	.5112	13.1	3.9	.5109	13.2	3.1	.4092
—noon	11.	3.9	.4290	10.7	3.2	.3424	11.5	4.	.4690	10.8	4.6	.4968	10.9	3.8	.4142
—night	10.3	3.2	.3296	10.6	2.9	.3074	11.	3.2	.3520	9.7	3.9	.3783	11.	3.6	.3960
" 7—morning	13.6	3.2	.4352	15.	3.4	.5400	15.5	3.8	.5890	13.	3.5	.4550	14.2	3.4	.4828
Totals	213.5		9.1018	221.7		7.5424	236.		9.3086	216.8		8.888	243.9		9.3469
Test computed from daily wt. and tests		3.73			3.4			3.63			4.1			3.83	
Composite test and fat from same		3.7	9.0095		3.4	7.537		3.65	9.34		4.05	8.78		3.8	9.268