

KANSAS FARMER

ESTABLISHED IN 1863. VOL. XXXVII. NO. 38.

TOPEKA, KANSAS, THURSDAY, SEPTEMBER 21, 1899.

SIXTEEN TO TWENTY PAGES—\$1.00 A YEAR.

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Agricultural Matters.

IMPROVEMENT IN THE CHEMICAL COMPOSITION OF THE CORN KERNEL.

(Continued from last week.)

Figure 4 (made from a photograph taken with a magnification of three diameters) illustrates the difference in corn kernels of about the same size but of very different fat content. The cross sections, shown at the top, were made by cutting off about one-fifth of the kernel from the tip end. In the longitudinal sections the tip end of the kernel points downward to the left. The sections and kernel shown at the left are from an ear of corn (No. 1338) which contains 6.08 per cent of fat. Those at the right are from an ear (No. 1512) containing 3.64 per cent of fat.

It will be seen that the germ is larger in the high-fat corn and that it extends nearly the entire length of the kernel, while in the low-fat corn the germ is small and about two-thirds as long as the kernel. Aside from the rather slight difference in the size of the depressions, the general appearance of the whole kernels is about the same whether they are rich or poor in fat content. This is true also of ears with kernels of about the same size, as may be seen from Figure 5, which illustrates the two ears from which were taken the kernels shown in Figure 4, the high-fat ear being at the left and the low-fat at the right.

There is apparently some tendency toward large kernels with ears of corn having a low fat content, and vice versa, indicating that the change in the percentage of fat is brought about, in part, at least, by the absolute increase or decrease of carbohydrates. In other words, in selecting seed with a low percentage of fat, as determined by chemical analysis, the ears chosen will have a tendency not only to small germs but to large kernels. This is illustrated by Tables 23 and 24, which give the average weights in grams of the air-dry kernels from 28 different ears which were used in 1899 as seed for high-fat and low-fat plots. The percentage of fat in the dry matter is also given.

The average weight of the high-fat kernels is .345 gram, while the low-fat kernels average .420 gram. However, there are wide variations from this apparent tendency.

TABLE 23.—Average Weights of Kernels from Twelve Ears of High-fat Corn.

Ear No.	Corn No.	Kernel av. weight.	Fat, per cent.
1	1413	.325	5.83
2	1342	.370	5.90
3	1338	.335	6.08
4	1314	.345	6.28
5	1389	.305	6.47
6	1352	.340	6.71
7	1354	.295	6.49
8	1476	.400	6.34
9	1308	.315	6.09
10	1276	.405	5.90
11	1379	.340	5.89
12	1259	.370	5.82
General average.....		.345	

TABLE 24.—Average Weights of Kernels from Sixteen Ears of Low-fat Corn.

Ear No.	Corn No.	Kernel, av. weight.	Fat, per cent.
1	1521	.490	3.64
2	1559	.430	3.63
3	1564	.500	3.58
4	1538	.370	3.56
5	1504	.390	3.38
6	1516	.355	3.34
7	1539	.390	3.32
8	1529	.320	3.22
9	1522	.525	3.27
10	1531	.380	3.33
11	1545	.470	3.35
12	1486	.430	3.39
13	1557	.500	3.56
14	1543	.410	3.59
15	1512	.310	3.64
16	1548	.450	3.65
General average.....		.420	

While the tendency of high-fat corn to small kernels and of low-fat corn to large kernels aids, in a way, in the selection of corn of high or low fat content, the difficulty of judging the percentage of fat by the comparative sizes of germ and kernel is greatly increased by the wide variations in the size of kernels. With kernels of approximately the same size, and with germs of similar shape, as those shown in Figure 4, it is an easy matter to distinguish between high-fat corn and low-fat corn; but frequently a large kernel of low fat content will have a larger germ than a smaller kernel of a higher percentage of fat; or the germs in the kernels from one ear may be short and thick, and from another ear they may be long and slender, the difficulties in the way of forming accurate judgment being thus increased.

To obtain exact data as to the relation between the percentage of fat and the percentage of germ in the corn kernel, the germs were removed from a large number

of kernels, the weight of the whole kernel and also of the separated germ being determined and reported on the basis of dry matter, having been dried in hydrogen before being weighed. It was found that after soaking corn kernels in hot water for about thirty minutes the germs are easily removed in the entire state and quite free from other portions of the kernel.

In Table 25 are given the results from eighty kernels of corn, ten kernels being

TABLE 25.—Weights of Corn Kernels with Weight and Percentage of Germ.

Kernel No.	Kernel, wgt. gms.	Germ, wgt. gms.	Germ, per cent.
Corn No. 1354.—Fat=6.49 per cent.			
1	.2611	.0411	15.74
2	.2718	.0385	14.16
3	.2633	.0370	14.05
4	.2789	.0382	13.70
5	.2427	.0347	14.30
6	.2859	.0372	13.01
7	.2642	.0362	13.70
8	.2595	.0329	12.68
9	.2567	.0359	13.99
10	.2680	.0422	15.75
Averages..		.2652	.0374

Kernel No.	Kernel, wgt. gms.	Germ, wgt. gms.	Germ, per cent.
Corn No. 1352.—Fat=6.71 per cent.			
1	.3113	.0391	12.56
2	.2872	.0360	12.53
3	.2864	.0340	11.87
4	.2821	.0374	13.26
5	.2667	.0360	13.50
6	.3094	.0442	11.97
7	.3434	.0414	12.06
8	.2682	.0390	11.18
9	.3116	.0402	12.90
10	.2870	.0348	12.13
Averages..		.3013	.0373

Kernel No.	Kernel, wgt. gms.	Germ, wgt. gms.	Germ, per cent.
Corn No. 1564.—Fat=3.58 per cent.			
1	.4478	.0418	9.33
2	.4428	.0446	10.07
3	.4402	.0402	9.13
4	.4943	.0420	8.50
5	.4205	.0439	9.31
6	.4714	.0439	9.31
7	.4968	.0436	8.78
8	.4968	.0361	8.21
9	.4581	.0446	9.74
10	.5188	.0432	8.33
Averages..		.4631	.0421

Kernel No.	Kernel, wgt. gms.	Germ, wgt. gms.	Germ, per cent.
Corn No. 1529.—Fat=3.22 per cent.			
1	.2859	.0250	8.74
2	.2882	.0237	8.22
3	.3533	.0297	8.41
4	.3135	.0265	8.45
5	.3277	.0273	8.33
6	.3417	.0310	9.07
7	.2918	.0257	8.81
8	.3178	.0276	8.68
9	.3273	.0278	8.49
10	.3338	.0280	8.39
Averages..		.3181	.0272

Kernel No.	Kernel, wgt. gms.	Germ, wgt. gms.	Germ, per cent.
Corn No. 1338.—Fat=6.08 per cent.			
1	.3268	.0373	11.41
2	.3229	.0385	11.92
3	.3031	.0308	10.16
4	.3122	.0400	12.81
5	.3025	.0349	11.54
6	.3018	.0384	12.72
7	.2963	.0363	12.25
8	.3095	.0361	11.66
9	.2871	.0395	13.76
10	.3424	.0407	11.89
Averages..		.3105	.0373

Kernel No.	Kernel, wgt. gms.	Germ, wgt. gms.	Germ, per cent.
Corn No. 1259.—Fat=5.82 per cent.			
1	.2719	.0371	13.64
2	.3172	.0390	12.30
3	.3571	.0408	13.11
4	.3602	.0514	14.27
5	.3446	.0482	13.99
6	.3786	.0455	12.02
7	.3453	.0450	13.03
8	.3206	.0454	14.16
9	.3927	.0472	12.02
10	.3304	.0476	14.41
Averages..		.3419	.0453

Kernel No.	Kernel, wgt. gms.	Germ, wgt. gms.	Germ, per cent.
Corn No. 1512.—Fat=3.64 per cent.			
1	.2813	.0258	9.17
2	.3156	.0259	8.21
3	.2674	.0206	7.70
4	.2740	.0229	8.36
5	.2805	.0250	8.91
6	.2935	.0232	7.90
7	.3223	.0251	7.79
8	.2752	.0238	8.65
9	.3008	.0233	7.75
10	.2664	.0222	8.33
Averages..		.2877	.0238

Kernel No.	Kernel, wgt. gms.	Germ, wgt. gms.	Germ, per cent.
Corn No. 1516.—Fat=3.32 per cent.			
1	.3969	.0338	8.52
2	.3293	.0246	7.47
3	.3586	.0364	10.15
4	.3434	.0318	9.26
5	.3401	.0296	8.70
6	.3348	.0283	8.45
7	.3317	.0272	8.20
8	.3096	.0240	7.75
9	.3843	.0340	8.85
10	.3733	.0373	9.99
Averages..		.3502	.0307

taken from each eight different ears. No. 1354 represents an ear of high fat content, 6.49 per cent,

and small kernels, average weight .2652 gram. The germs average .0374 gram in weight, and amount to 14.11 per cent of the whole kernel. Corn No. 1564 contains 3.58 per cent of fat. The kernels average .4631 gram and the germs .0421 gram in weight. The germs amount to only 9.10 per cent of the whole kernel although the average weight of the germ is considerably more than in No. 1354. This ear, No. 1564, illustrates a relatively low fat content produced by an absolute increase in carbohydrates. In corn No. 1352, containing 6.71 per cent fat, and No. 1529, containing 3.22 per cent fat, the kernels are approximately uniform in size, the former being .3013 and the latter .3181 gram in average weight. The germs in the high-fat ear amount to 12.40 per cent of the whole kernels, and to only 8.56 per cent in the low-fat ear. This difference is due to the absolute difference in the size of the germs, the germs from the high-fat kernels being .0373 gram and from the low-fat kernels only .0272 gram average weight. Nos. 1338 and 1512 are the same ears as are shown in Figure 5, and from which the kernels shown in Figure 4 were taken. The fat content is 6.08 and 3.64 per cent and the percentage of germ 12.01 and 8.28, respectively. Nos. 1259 and 1516 are ears with medium sized kernels, the average weight being about the same from each ear. The former contains 5.82 per cent of fat and 13.30 per cent of germ, the latter 3.32 per cent of fat and 8.73 per cent of germ, as an average.

It will be seen that the general relation between the percentage of fat and the percentage of germ in the corn kernel is clearly established. Of course there are minor individual differences among kernels from the same ear, and it is also noted that there is a difference in different ears as to the relation between fat content and germ content. For example, corn No. 1354 contains 6.49 per cent of fat and 14.11 per cent of germ; while corn No. 1352 contains a higher percentage of fat but a lower percentage of germ. Again the corn of lowest fat content is not quite the lowest in percentage of germ. These minor differences are perhaps due in part, to the varying percentage of fat in the remainder of the kernel, although the variation in the percentage of fat in the germ is doubtless the chief factor in producing such differences. For example, Voorhees found 26.65 per cent of fat in the germs of the corn kernel, while Ballard found 39.85 per cent.

The method of selecting corn of high or low fat content by mechanical examination is similar to that described under the work on the protein content of the corn kernel, excepting that the size of the germ alone as compared with the remainder of the kernel is considered. Judgment is formed by examining with the naked eye the cross sections and longitudinal sections of a few kernels from an ear.

Table 26 shows the results obtained in picking out corn by mechanical examination from a lot which contained corn of only very high or of very low fat content.

TABLE 26.—Actual Fat Content of Corn Separated by Mechanical Examination.

Ear No.	Corn selected for High fat, per cent.	Low fat, per cent.	Ear No.	Corn selected for High fat, per cent.	Low fat, per cent.
1	5.90	3.56	9	5.87	3.27
2	6.08	3.59	10	6.34	3.39
3	6.28	3.63	11	5.80	3.67
4	3.65	3.58	12	6.09	3.50
5	6.47	3.32	13	5.82	3.63
6	6.71	3.65	14	5.90	3.64
7	6.49	3.22	15	5.89	3.64
8	5.97	3.67			

In picking out fifteen ears for high-fat corn and fifteen ears for low-fat corn but one error was made, namely, the fourth ear selected for high-fat corn which really contained a low percentage of fat.

To make a more practical test of the method a miscellaneous lot of corn was examined—in all two hundred seventy-two ears, which varied in fat content from about 3.60 to 5.80 per cent. Twelve ears of very high fat content and sixteen ears of very low fat content had been taken from this lot and used for seed in 1899 (see Tables 23 and 24), otherwise the results would no doubt have been more marked than they are.

From the lot of two hundred seventy-two

TABLE 27.—Fat Content of Eighteen Ears Selected by Mechanical Examination for High-fat Corn.

Ear No.	Fat, per cent.	Ear No.	Fat, per cent.	Ear No.	Fat, per cent.
1	4.94	7	5.06	13	5.27
2	4.30	8	5.26	14	5.12
3	5.43	9	5.22	15	5.73
4	5.64	10	5.33	16	5.43
5	5.23	11	5.55	17	4.97
6	5.58	12	4.99	18	5.21
Average.....		5.24			

ears, by mechanical examination eighteen ears were selected which appeared to possess



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a comparatively high fat content, and at the same time thirty ears apparently low in fat were selected. Tables 27 and 28 give the results.

TABLE 28.—Fat Content of Thirty Ears Selected by Mechanical Examination for Low-fat Corn.

Ear No.	Fat, per cent.	Ear No.	Fat, per cent.	Ear No.	Fat, per cent.
1	4.01	11	4.35	21	3.81
2	4.11	12	4.52	22	4.39
3	3.64	13	3.73	23	4.43
4	3.67	14	3.76	24	3.80
5	4.52	15	5.21	25	4.09
6	3.66	16	3.63	26	4.27
7	4.07	17	4.02	27	4.02
8	4.20	18	4.55	28	3.87
9	3.91	19	4.52	29	4.00
10	4.85	20	4.29	30	3.98
Average.....		4.13			

The average fat content of the ears selected for high-fat corn is 5.24 per cent, while 4.13 is the average of that selected for low-fat corn.

TABLE 29.—Weight of Corn Kernels with Weight and Percentage of Germ.

Kernel No.	Kernel, wgt. gms.	Germ, wgt. gms.	Germ, per cent.
Ear 2. Table 27.—Fat=4.30 per cent.			
1	.3580	.0346	9.66
2	.3670	.0362	9.80
3	.3630	.0277	9.42
4	.2841	.0306	10.77
5	.2960	.0262	8.82
6	.3054	.0326	10.67
7	.3156	.0304	9.63
8	.2866	.0284	9.91
9	.3452	.0345	10.25
10	.3053	.0280	9.17
Averages..		.3158	.0310

Ear 15. Table 28.—Fat=5.21 per cent.

Kernel No.	Kernel, wgt. gms.	Germ, wgt. gms.	Germ, per cent.
1	.4014	.0450	11.21
2	.3674	.0348	9.47
3	.3975	.0463	11.65
4	.4392	.0410	9.33
5	.4571	.0539	11.79
6	.3541	.0442	12.48
7	.3968	.0377	9.50
8	.4225	.0463	10.96
9	.3850	.0397	12.91
10	.4096	.0464	11.33
Averages..		.4031	.0445

If we omit ear No. 2 in Table 27 and ear No. 15 in Table 28, the lowest percentage of fat in the ears selected for high fat content is higher than the highest percentage in the low-fat selection.

Ten kernels from each of the two ears just mentioned were taken, and the exact percentage of germ in each kernel determined, in order to ascertain whether these ears were selected because of incorrect judgment or were exceptions to the general rule that the percentage of fat varies with the percentage of germ in the corn kernel. The results are given in Table 29.

While some variations in individual kernels from the same ear exist, it is seen that the corn of 4.30 per cent fat contains 9.8 per cent of germ, while the ear with 5.21 per cent fat contains 11.06 per cent of germ in the kernel as an average, showing that the judgment was incorrect, having been formed possibly from insufficient data.

tein, and the crop from low-protein seed shows 10.21 per cent.

In 1898 the crop of corn from the seed of high protein content contained 11.05 per cent of protein, while that from low-protein seed contained 10.55 per cent. If only the central half of each plot is considered the results show 11.17 per cent and 10.47 per cent of protein in the corn from the respective seed.

The average protein content of twenty-two ears of corn grown in twenty-two different hills from high-protein seed was 11.11 per cent, while 10.15 was the average percentage of protein contained in twenty-two other ears grown in the same twenty-two hills from low-protein seed.

Fifty hills of corn were planted with two kernels of high-protein seed and two kernels of low-protein seed in each hill. The average protein content of the crop grown from high-protein seed was 11.71 per cent, while 10.46 was the average percentage in the crop from the low-protein seed.

In the six tests the selection of seed corn of high and low protein content has produced differences in the crops varying from .50 to 1.25 per cent of protein.

In 1897 a plot of corn planted with seed of high fat content produced a crop containing 4.73 per cent of fat, while the crop produced on a plot planted with seed of low fat content contained an average of 4.06 per cent. Considering only the central half of each plot the crop from the high-fat seed contained 4.82 per cent of fat, while that from the low-fat seed contained 4.03 per cent.

In 1898 the high-fat seed produced a crop containing 5.15 per cent of fat and the crop from low-fat seed contained only 3.99 per cent. Again by considering only the central half of each plot the percentages of fat in the crops are found to be 5.29 and 3.84, respectively.

The average fat content of twenty-seven ears grown in 1898 in twenty-seven different hills from high-fat seed was 5.06 per cent, while 4.01 was the average percentage of fat contained in twenty-seven other ears grown in the same twenty-seven hills from seed of low fat content.

Fifty hills were planted with two kernels of high-fat seed and two kernels of low-fat seed in each hill. The average fat content of the crop produced from the high-fat seed was 5.08 per cent, while 3.97 was the average percentage in the crop from low-fat seed.

In the six tests the selection of seed of high and low fat content has produced differences in the crops varying from .67 to 1.45 per cent of fat.

The fat content of corn is even more susceptible to the influence of seed selection than is the protein content, doubtless due to the fact that the primary materials from which fat is manufactured, namely, carbon dioxide and water, are usually furnished to the plant in unlimited supply, while the formation of protein is essentially dependent upon the supply of available nitrogen in the soil.

As the percentage of carbohydrates (principally starch in corn) varies inversely with the combined percentages of protein and fat it follows that the carbohydrates are increased in percentage whenever the combined percentage of protein and fat is decreased, and vice versa.

It has been found that the protein content of corn varies chiefly with the proportion of glutenous layer in the kernel and that by mechanical examination of corn kernels this variation in the proportion of glutenous layer can easily be observed with the naked eye.

It has also been found that the fat content of corn varies quite uniformly with the proportion of germ in the kernel and that by mechanical examination this variation in the relative amount of germ in the whole kernel can also be observed with the eye.

By actual trial it has been found both possible and practicable to select corn by mechanical examination with either high or low content of protein, fat, or starch.

While further investigations are necessary, and are in progress, to determine more accurately the best methods and more definitely the possibilities of improvement in the chemical composition of corn, it is here stated, tentatively, that essentially by the methods reported in this bulletin any corn-grower will be able to select seed and to breed corn to increase or to decrease the percentage of any one of its three principal chemical constituents.

All experiments reported in this bulletin have been carried on with the one variety of corn, namely, Burr's White. Of course, it is not believed that Burr's White is the best variety for improvement in corn in every one of the several important lines. Indeed it seems highly probable that one variety of corn will be found best adapted to but one line of improvement. We have in progress chemical studies of other varieties of corn, and a considerable amount of data and information has been already acquired, but it is reserved, pending further investigations, for future publication, the special object of this bulletin being to give the data, thus far obtained, indicating the possibility and establishing the fact that

the corn kernel may be improved in chemical composition.

It may be stated that improvement in the composition of other parts of the corn plant is under consideration by this station. Plans are made to investigate other questions relating to this general subject; such as the effect of changes in the chemical

be approximately uniform in composition. If so, a method is thus offered for selecting seed according to its chemical composition.

Corn and Beans.

Editor Kansas Farmer:—Several have written me to know what I have been doing

Corn No. 1338 1512
Fat, per cent. 6.08 3.64



FIGURE 4.

Corn No. 1338 1512
Fat, per cent. 6.08 3.64
Kernel, ave. wt. 335 310

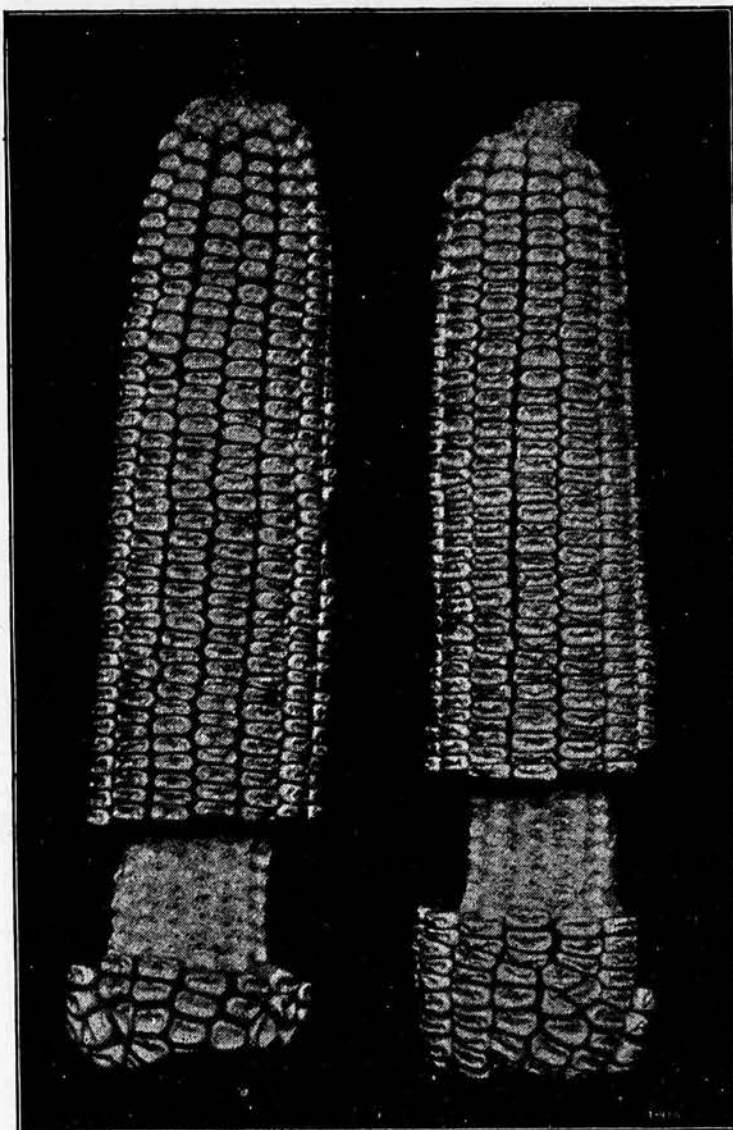


FIGURE 5.

composition of corn upon digestibility, vitality, yield, etc.

The results obtained in our investigations to improve the composition of corn have suggested the possibility of improving other grains by somewhat similar methods. It seems not improbable that the different grains or kernels produced in a single head of wheat, oats, barley, etc., may be found to

the past season. I have had a hard time putting in 80 acres of crops all alone, with so many rainy day in the spring. My first crop to plant is potatoes and the ton to the acre of second-growth mammoth clover left on each acre over winter caused the soil to be rather wet this spring, so that when I went on with the wide-tired wagon loaded with manure I hurt the

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damp soil considerably. I hauled 200 loads on 10 acres, all alone, which took me two weeks, during which time all my neighbors were sowing flax and planting corn. When I got my 12 acres plowed and planted to potatoes I could see my neighbors' corn crosswise of the rows, while their flax was waving in the wind, having been sown April 14-15; I finished planting potatoes May 2, or just a month late; in fact all my crops were planted one month late, and the season was a month late also. I got my flax in on May 6 and finished listing one field of corn on May 11 and another on May 16. Now for results. My potatoes are about one-half a crop and small, but free from scab or rot. My flax was free from weeds and an average yield, while my late corn is poor, only about 15 bushels per acre, but my other field is a record-breaker. On 11 acres there are 444 shocks with 100 hills per shock, the stalks averaging 12 feet high with 1 to 2 ears 12 inches long, or fully 350 large ears per shock and 44 shocks per acre, which means 88 bushels per acre, but I call it 50 to be safe, and there is all of 4 tons of fodder per acre. The corn was listed 42 inches between rows and one kernel in a place, 12 inches apart, and the stand was good. This corn was listed in on May 11, the lister splitting the ridges left by the potato-digger the fall before. The ground had been manured all over and two crops of potatoes, one of flax, and one of millet were raised on this plot in the previous years. I ran the gopher-sled through this field June 16-17 and laid it by with one horse and lister on July 2-3. That is all I did to it and the closeness of the rows caused it to grow very tall and the manure put on four years before paid me a splendid revenue. My corn is all in the shock and I will bale and stow in the barn one field soon and will thresh the other out of the field. I still have about 100 bushels of unhusked corn in the mow and I thresh out about 5 bushels each day. The fodder is splendid, and the calves, lambs and horses eat it readily. I honestly think my best corn will go 60 bushels per acre, although I call it 50 to keep my neighbors from poking fun at me, as they think listing is a failure. Now it cost me about \$1.50 to list in 7 acres, \$1.50 to sled them, and \$1.50 to lay by 7 acres, or a total of \$4.50 to grow 7 acres of corn, with about \$7 more to cut and shock it, or \$11.50 for the 7 acres, or about \$1.60 per acre, or 2 2/3 cents per bushel all in the shock. My other field cost about 10 cents per bushel with exactly the same labor, or an average for the whole crop of about 6 1/2 cents per bushel, including an average of 2 1/2 tons of good fodder per acre.

With my machinery I will thresh this out in winter time without any expense and not much work and after the corn is valued at 20 cents per bushel it will amount to \$8.40 per acre, with a cost of \$2.50 per acre for the average of 37 1/2 bushels, which gives me almost \$6 per acre profit above the cost of working the crop and 2 1/2 tons choice corn hay per acre for the labor of hauling it in. Of course rent, interest and taxes are not mentioned in this. Allow \$3 per acre for this and I still would have \$3 cash profit per acre and 2 1/2 tons of corn hay. Now the funny part is, what does my corn hay stand me? It is actually worth \$2 per ton, or \$5 per acre, which will pay the cost of raising the corn twice over. The weeds have made a rank growth in these two fields and some other mode of cultivation is necessary next year.

I failed to get seed enough on my 11 acres of soja-beans so I double-rowed them and this spoiled cultivating them and the crab-grass made a great growth. They



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were planted June 23 and were cut with a table rake September 6. There was no rain for ten days before they were planted, 0.37 inches during June afterwards, a flood of 9.15 inches in July, only .73 inches in August, and none in September up to cutting time. The 9.15 inches rain in July was as hard on them as a drought would have been. The yield seems to be good and the crab-grass and beans make a good feed. The calves and lambs eat both readily and I do not see any use of threshing them out. J. C. NORTON.
Moran, Kans.

The Stock Interest.

THOROUGHbred STOCK SALES.

Dates claimed only for sales which are advertised or are to be advertised in this paper.

SEPTEMBER 22—Allen Park, Poland-Chinas, Columbia, Mo.
SEPTEMBER 27—Hamp B. Watts, Herefords, Fayette, Mo.
SEPTEMBER 29—W. N. Winn & Son, Poland-Chinas, Springfield, Ill.
OCTOBER 2—M. C. Vansell, Poland-Chinas, Muscotah, Kas.
OCTOBER 14—Gus Aaron and John Bollin, Leavenworth, Kans., Poland-Chinas.
OCTOBER 17—George Bothwell, Shorthorns, Kansas City, Mo.
OCTOBER 18—H. C. Duncan, Shorthorns, Kansas City, Mo.
OCTOBER 19—Thos. W. Ragsdale, Shorthorns, Kansas City, Mo.
OCTOBER 20—John Burrus, Shorthorns, Kansas City, Mo.
OCTOBER 23—E. E. Axline, Poland-Chinas, Oak Grove, Mo.
NOVEMBER 1-2—W. T. Clay and T. J. Young, Shorthorns, Kansas City, Mo.
NOVEMBER 16—W. F. Harned, Shorthorns, Vermont, Mo.
DECEMBER 6-7—Armour, Funkhouser, Sparks, Herefords, Kansas City, Mo.

Baby Beef.

The older the season gets the more clearly it is being seen that there is likely to be a great scarcity of cattle for the feed lots this fall and for market as well. Shrewd western feeders in the States saw this shortage coming and commenced last year to prepare for it by feeding baby beef. The great success of lamb-feeding led to the thought that calves could be made a source of as good profit, and at the same time furnish as toothsome a delicacy as the lamb, if the youngsters were taken and given all the alfalfa they could eat, together with a topping out on corn, and linseed-meal.

Particulars of one of the first bunches of calves put up to feed for baby beef have just been made public. They were fed at H. Collin's, Colorado. Of a bunch of 70 the following are the particulars: At the time the calves were placed on feed in December the heifers weighed 412 pounds and the steers 413 pounds. March 7 the heifers weighed an average of 516½ pounds and the steers 519½ pounds, and one steer which did not get in with the bunch, 570 pounds. On April 7 they averaged 572 pounds for the heifers and 579½ pounds for the steers, with 680 pounds for the odd one. May 7 the average was 632 pounds for heifers, 644 pounds for steers and 740 pounds for the odd. June 7 the weights were 695, 712 and 832 pounds.

Before they were placed in the feed lots they were contracted to be made to average 700 pounds, or over at some time in June, and were to be paid for at the rate of 5 cents per pound at the yard, the animals to be fed as usual in the morning and shut away from feed after 8 o'clock, the weighing to be done at noon of the same day, so that the feeder stands none of the shrink incident to shipping to the river markets.

The method of feeding was to put the calves in the pens in December last and at once begin giving them all the alfalfa they could eat, together with a small quantity of bran and corn chop, mixed half and half. As they became more accustomed to the grain, the ration was increased in quantity, and the proportion of bran decreased until it was 1-6 and the corn 5-6. During the last month 1 pound of oil-meal per day was added to the feed, and Mr. Amos, the feeder, considers it a valuable constituent of the ration.

Another lot of 93, fed by a well-known feeder of the same place, were fed along the same lines as the above lot, except that he used no oil-meal, and instead of that fed potatoes during February, March and April, with a grain ration of 10 pounds per day, which was increased to 13 pounds for the last month. While the potatoes were being fed the calves did not eat nearly so much of the alfalfa, but took a great deal of wheat straw, seeming to prefer it to the hay, and when the potato-feeding ceased they went back to the heavier hay ration. These animals averaged in January 481 pounds. On April 24 they averaged 656½ pounds, and on May 24, 730 pounds, a gain of about 2½ pounds per day. On the last date one of the steers weighed 825 pounds, and another 880 pounds, all of this lot being steers.

The prospects at present are that a large number of calves will be fattened in this State this winter. In the first experiment one-half of the calves were from the Texas

range and the other half from Utah. The feeder could see no difference in the gain made by the two bunches. They were all Hereford and Shorthorn grades.

We don't need to go so far away from home, however, to get an example of profitable feeding along this line. At the Brandon Experimental Farm last year one of the grade cows produced a pair of twin calves from the service of a Shorthorn bull. They were raised by hand, and weighed at 11 months old 850 pounds each, and a butcher offered 4 cents a pound for them, or nearly \$65 for the two calves before they were a year old.

What The Farmer would like to know is, why can not our farmers fatten their own calves during the winter and sell them in the spring as baby beef, instead of for stockers? The difference in the price obtained for these animals would surely make a good profit for feeding them.—Nor-West Farmer.

Gossip About Stock.

Farmers and stockmen who wish to buy cattle—steers or heifers of different ages—at reasonable prices and terms should note the advertisement of cattle for sale by J. W. Higgins Jr., Hope, Kans.

B. F. Berry, Carbondale, Kans., made his third annual exhibit at the Osage County fair, held recently at Burlingame, and won first prize in each class of Poland-Chinas entered. Having made the same record in 1897 and 1898, he is certainly entitled to the breeder's belt.

It is an undisputed fact that Duroc-Jersey swine are gaining in popularity and the demand for stock was never better, yet the opportunities to secure representative animals of the breed are very scarce. However buyers will have an opportunity to buy Duroc-Jersey boars and bred sows on their merits at the public sale of J. W. Strubling & Son, Earlham, Iowa, on September 27, 1899.

It is a pleasure to note that our friend, Mr. J. E. Hoagland, of Holton, is again coming to the front with his Poland-China swine. The writer was at his place over night, last week, and inspected the stock, finding it all in excellent condition. The breeding of each animal is meritorious and individually hard to beat. He will send only worthy animals, so when interested write him.

The big Poland-China sale of Kansas this year will be held at Hope, Kans., early in November, by J. W. Higgins Jr. Mr. Higgins has built up a grand herd and is ambitious and capable enough to make his herd a leading one of the West. He has reserved a large number of his best animals for this sale in order to make an attractive offering for his first annual sale. Watch for further announcements.

All farmers who are interested in swine-breeding should endeavor to keep informed of every remedy or appliance which may be invented to prevent their stock from having the swine fever or hog cholera. By writing a postal card addressed to West Disinfecting Co., 25 East Fifty-ninth St., New York City, any one may receive a booklet which will impart useful information, and it may be the means of saving much loss among swine. Ask for their book on swine diseases.

Dietrich & Spaulding, Ottawa, write: "Our pigs are doing fine and we have the most even symmetrical lot we ever raised. One thing we can say this season is that we have not a pig with poor heart, girth or poor feet. Knox All Wilkes and Highland Chief are two sires that always put good pigs under their get. Our fall litters are beginning to come, and they are large litters and well marked. Last week we shipped a very growthy boar pig by Knox All Wilkes to P. F. Sullivan, Hazleton, Kans."

The wealth that lies in a really good brood sow was well illustrated last week in the herd of C. P. Shelton, of Osawatimie, While Mr. Shelton was at the Paola fair waiting on the hogmen about his show pens. Among his choice sows, Mr. Shelton counts his Nina One Price among the best. He had for sale at the fair her litter of spring pigs, and on the day two were sold out of this pen, the old sow at home brought her owner a litter of eight pigs by Mr. Shelton's old boar, 900 Fine.

H. Davidson & Son, Waverly, Kans., announce a public sale of 35 Poland-China hogs, to be held on Tuesday, October 24, 1899.

D. L. Button, North Topeka, Kans., breeder of Chester White swine says: "Business is good and the Union Hill Herd is in good condition. I have for sale at this time several last fall gilts sired by D. L. Boy 7757 and J. T. 4391, and out of recorded sows, which are sure to make grand good brood sows. I have a number of good April and May boars and spring gilts to dispose of, also a few July boar pigs, good, heavy-boned fellows, and 3 or 4 fine litters of pigs farrowed about September 1. I will be glad to take orders for these pigs to be shipped at weaning time, as I do not wish to winter all of them. The young boars and pigs all sired by D. L. Boy 7757 and my young King Eclipse boar, Fritz 10441, and are out of good sows."

The untimely sickness of Foreman Purdy, on the hog farm of Kirkpatrick & Son, Conner, Kans., and the loss of almost the entire acreage of alfalfa pasture by high water, has prevented an intended round of the fairs this fall, and brought about the decision on the part of the firm to make a considerable reduction in the number of hogs on hand. Just how this will be done is not yet determined, but a sale, if made, will be of a character to interest breeders. Just now the feature of the Kirkpatrick herd is the 75 or more blocky, strong-backed Combination F. F. pigs growing up to do credit to their sire. Mr. Kirkpatrick expresses himself as well pleased with the boar selected to take the place of the late Hadley Jr.

The Watt's Hereford sale, at Fayette, Mo., Wednesday, September 27, 1899, will be the first public sale of high-class registered Hereford cattle to take place this fall within the great beef cattle producing area of this country. It being the first sale of the season, and Mr. Watt's standing the peer of any as a breeder and judge of good cattle, the prospective buyer can rest assured that he will find this herd strong individually and surely bred right, illustrating

what may be done with good Herefords. It is expected that the Hereford breeding fraternity will be out in force, as the prospect for successful investment in good beef cattle was never better than at this time. Those who intend founding a herd or adding recruits find the offerings on sale day as attractive as the most progressive could wish.

One day last week the writer had the pleasure of looking over the Shorthorn cattle to be found at Maple Hill and owned by H. C. Duncan, of Osborn, Mo. There are about 200 head of Cruickshank and Cruickshank-topped Bates cattle in the Maple Hill Herd, contentedly browsing over one of the finest farms in old Missouri. From this large herd Mr. Duncan has selected 35 head to be sold at his coming sale, to be held at Kansas City October 17 and 18, and we are free to confess that this selection is the cream of the herd, and Mr. Duncan says that they are the best lot of Shorthorns he has ever offered at public auction, and the prospective buyers will not be disappointed when the cattle are led into the sale ring. Too much credit can not be given to Mr. Duncan's head herdsman, Merritt Hughes, for the fine condition and disposition of the cattle.

Out of the 200 Shropshire rams which Kirkpatrick & Son, of Conner, Kans., are advertising now in the Kansas Farmer, something like 100 head have been sold, but 75 fine ones are still on hand, and there are a few more yet to be brought to the home place. The 75 thick-wooled young bucks, which Mr. Kirkpatrick now has grazing on the high pastures back of his house, are in fine shape, few of them, in fact, ever having come under the eyes of prospective purchasers. Nearly all of this bunch have been brought home since the first lot was sold out, and, in addition to being an all-round good lot of representatives of the breed, includes in its number 20 head of extra fancy rams of show-ring quality and most of them out of imported sires and dams. The rams, most of which are yearlings, are in excellent condition and show that superior judgment has been used in breeding and handling. This, however, is as might be expected, the senior Kirkpatrick having had a life-long experience, the last eleven years in Kansas, in the business of sheep-raising.

The Sayda Polo Jersey Farm, near Parsons, Kans., has a new manager, Mr. J. F. Odle, who succeeds L. W. Frary. Mr. Odle graduated from the Kansas State Agricultural College in the early '90's, then went to New York State, and for a year was herdsman for Governor Levi P. Morton, managing that great herd of Guernseys under Professor Cottrell (now professor of agriculture at the college) as superintendent. Mr. Odle gave many cows in the herd yearly butter records ranging from 400 to 800 pounds. He then went to Cornell University to take special work in dairying. After this he spent some time as manager of dairy herds in Pennsylvania. Last year he resigned his position to take several months advanced dairy work in the Wisconsin Dairy School at Madison, fitting himself to take up work either in an agricultural college or the management of a dairy farm. Mr. Odle, when with Mr. Morton, fitted his great show herd for the fairs, winning the blue ribbons at the Madison Square Garden, New York city. His education and experience ought to fit him admirably to conduct the business of a Jersey dairy and breeding farm.

If the beef cattle breeder's inclination leans toward the reds and roans or even solid reds will find them in the offering which will go to the highest bidder at South Omaha stock yards sale pavilion, on Thursday, October 5. Mr. B. O. Cowan, of New Point, Holt County, Missouri, consigns 45 head straight Cruickshank and Cruickshank-topped of the best of American families. There are several serviceable young bulls good enough to head herds and heifers that would sell well up in any State fair ring. W. J. Ewing, whose farm lies east of St. Joseph, Mo., will send in 9 head, of which there are 2 year-old straight Cruickshank heifers that are typical Scotch individuals good enough to grace any herd the world over. The five yearling heifers are the daughters of Baron Ury 118024, a son of the Imp. Cruickshank Prince President 77023. His dam, Mysie 45th, a daughter of Imp. Earl of Aberdeen 45992, bred by Amos Cruickshank. There will also be two bulls in the Ewing draft that are good ones. Either B. O. Cowan or W. J. Ewing will take pleasure in sending a free copy of the sale catalogue and very cordially extend an invitation to all who can to attend the sale, believing as they do, that the cattle to be sold are worthy the attention of all beef cattle breeders.

The Weavergrace Herefords, owned by T. F. Botham, Chillicothe, Mo., made cash winnings of \$1,219 at the Iowa and Minnesota State fairs. At the Iowa State fair they won the following: Bull 3 years old, Thickset, first; bull 2 years old, Grandee, first; bull 1 year old, Goodwin, second; bull calf, Checkmate, third; cow 3 years old or over, Lady Charming, first; heifer 2 years old, Benison, first, Benefice third; heifer 1 year old, Clarissima, second, Pure Gold third; heifer calf, Golden Lassie, third. Graded herd—Thickset, Lady Charming, Benison, Clarissima, and Golden Lassie, first, Grandee, Bunchie, Benefice, Pure Gold, and Lustre, second. Get of bull—Thickset, Lady Charming, Grandee, and Benefice, first, Goodwin, Pure Gold, Checkmate, and Golden Lassie, second. Both first and second prize lots by Corrector. Produce of a cow—Thickset and Goodwin, produce of Grove Lassie, first, Lady Charming and Checkmate, produce of Cherry 24th, third. Champion bull, Thickset; champion cow, Benison; best yearling steer of any breed, Old Times, by Corrector. Young Herd—Goodwin, Clarissima, Pure Gold, Lustre, and Golden Lassie, first. At the Minnesota State fair, bull 3 years or over, Thickset; bull 2 years, Grandee, first; yearling bull, Goodwin, second; bull calf, Checkmate, first; cow 3 years or over, Lady Charming, first, Bunchie, second; heifer 2 years old, Benison, first, Benefice, second; heifer 1 year old, Pure Gold, first, Clarissima, second; heifer calf, Golden Lassie, first. Breeders young herd—Goodwin, Pure Gold, Clarissima, Golden Lassie, and Lustre, first. Get of one sire—Thickset, Lady Charming, Checkmate, and Golden Lassie, first. Champion bull, Thickset; champion cow, Benison. Aged herd—Thickset, Lady Charming, Benison, Pure Gold, and Golden Lassie, first. Junior champion male, Checkmate; junior champion female, Golden Lassie. Against all breeds in the best exhibition of cattle of the beef breeds ever seen at the Minnesota State fair, the Weavergrace entries are as follows: Fat steer, Old Times, first; champion bull, Thickset;

Save the Skim-Milk



Farmers are beginning to realize that practically all of the fertilizing value of milk is in the skim-milk, and none of it in the cream. To keep the skim-milk at home use a

Safety Hand Separator.

This skim-milk is worth 22 cents a 100 pounds for feed. Better save it. This plan saves all of the fertility on the farm. You can't afford to sell your fertility. Catalog No. 19 free.

The Sharples Co., P. M. SHARPLES
Canal & Washington Sts., West Chester, Pa.
CHICAGO. U. S. A.

champion 2-year-old heifer, Benison; bull 2 years old, Grandee, second. Young herd—Goodwin, Pure Gold, Clarissima, Lustre, and Golden Lassie, first. Get of one bull—Thickset, Grandee, Lady Charming, and Benefice, first. In the grand breeders' stake for herd of beef cattle—best herd of 6 beef cattle, any age, breed, or sex, bred by the exhibitor, the most valuable prize at any State fair this season—Thickset, Grandee, Goodwin, Lady Charming, Benison, and Pure Gold, first.

The Jersey cattle event of the year will be the closing out sale of the Kinloch Jersey Herd, of Kirksville, Mo., on October 16, 1899. The Kinloch herd, numbering over a hundred head, and composed of the best in blood, individuality, and performance, and got together with a great deal of labor and unlimited expense, has achieved the greatest of fame in the Jersey world and now will be sold at auction. In laying the foundation of the Kinloch herd Dr. Still commenced at the top and worked up; he would sooner buy an extra cow at \$500 than to buy a good one at \$200; he bought no common cattle at any price hence he has none to sell at his closing out sale. The herd was named after his famous cow, Hallie Kinloch 59148; she has a record of 33 pounds 15 ounces of butter in seven days, and 356 pounds in ninety days. Hallie is a St. Lambert cow, sired by Chief of St. Lambert 22940, as also is Etta Kinloch 133972, test 16 pounds 8½ ounces. At the sale will be sold a son of Hallie (by a son of Pedro), a daughter of Hallie, also her grandson and granddaughter; Etta Kinloch 133970 is a granddaughter of Chief of St. Lambert 22940. The Kinloch herd is the only herd in the United States that has two cows testing over 32 pounds in seven days; and the other cow testing 32 pounds 4 ounces is Bessie Lewis 66397. Besides other St. Lamberts there are three daughters of Conan's Tormontor, Pedro 3187 has three daughters in the sale, also Combination and other noted families will be in the sale, as shown by the catalogue, which will be sent on application to Fred Zimmerman, manager, Kirksville, Mo.

M. C. Vansell, of Muscotah, Atchison County, Kansas, announces a public sale of Poland-China hogs and Shorthorn bull calves, to be held at his Ashland Stock Farm, on Monday, October 2, 1899. A Kansas Farmer representative made a flying visit to the farm last week to inspect the stock and was very much gratified to find an exceptional lot of good things to be included in the sale, consisting of eleven Shorthorn bull calves that are all right as to color, breeding, and individual excellence. The calves are sired by his splendid herd bull, Golden Lad 115691, bred by E. B. Dustin, and by Golden Rule 98283, out of Germania 2d by Gondolier 98287. The dams of the calves are Princess, Young Mary, Rose of Sharon, and Mysie families. The bulls are a choice lot. The main offering of this sale, however, consists of 67 head of Poland-China hogs, of which number 59 are spring pigs—32 boars and 27 gilts; 6 are yearlings and 2 are 2-year-old sows, sired by Gold Dust 18698. The spring pigs are sired by Gold Dust, Leo Medium by Woodburn Medium, and Tibb's U. S. 2d, a grandson of Old Black U. S. The pigs are out of sows by L's Tecumseh, One Price, Latest Fashion, J. H. Sanders, Hands On, Prince Tecumseh, Tecumseh 96, and Chief K. by Tecumseh 2d. The pigs are the best Mr. Vansell has ever raised, and show that his herd boar, Gold Bug, by Free Trade and out of Minister's Model by Klever's Model, is an exceptional sire, and this offering is sufficiently attractive to bring out a large attendance of breeders who wish to replenish their own herds. Send for catalogue.

Breeding Cattle Highest in Fifteen Years.

Four years ago prices for cattle were so discouragingly low that many breeders who had not previously become bankrupt went into their herds and castrated pure-bred registered bulls and spayed their heifers by the wholesale, as they could not get enough margin over beef cattle prices to justify them in holding on to their breeding cattle. Many a good and careful breeder had to give up the struggle, and when at last the shortage in cattle began to be felt and times began to improve, there were but few breeders and not many with large herds to take advantage of the rising tide. Within the past two years there has been an advance in the price of pure-bred breeding cattle of at least 150 per cent.

The breeders of Shorthorns, Herefords, Angus, and Galloways are not a bit terrified by the advance in the price of steaks, roasts, etc.

Prices for pure-bred breeding cattle are the highest they have been since the great boom in such stock in the early eighties.—Chicago Drovers' Journal.

For driving out dull, bilious feeling, strengthening the appetite and increasing the capacity of the body for work, Prickly Ash Bitters is a golden remedy.

The man whose mind is not made up should never air his opinions in public.

WEEKLY WEATHER-CROP BULLETIN.

Weekly Weather-Crop Bulletin of the Kansas Weather Service, for the week ending September 19, 1899, prepared by T. B. Jennings, Section Director:

GENERAL CONDITIONS.

A pleasant week, characterized by warm days and cool nights, some days quite windy. A touch of frost in the northwest on the 16th. Good rains in the southern counties as far east as Cowley, extending north through Ford, Edwards, and Stafford into Rush, Ellis, and Trego, thence northeastward to the Missouri River; light showers outside of this area. The week ended in a fine rain.

RESULTS.

EASTERN DIVISION.

Clover-hulling is progressing in Atchison and Franklin. Wheat-sowing is in progress in many of the counties, but dry weather still retards plowing and sowing in the extreme southeastern. Late corn is now being cut, early corn being generally too dry for cutting. Apples are falling badly in most of the northern counties, are a poor crop in Miami, and a short crop in Pottawatomie on account of windfalls.

Atchison County.—Heavy rains first of week improved pastures, but too late to help late corn; much corn in shock; early corn too dry for fodder; corn-cutting being pushed; a good week for threshing and clover-hulling; winter apples falling badly.

Chautauqua.—A good week for farming; soil in good condition for fall seeding, and much of the ground ready for the seed.

Cherokee.—Another dry week, retarding preparations for fall seeding; pastures drying up.

Coffey.—Wheat-sowing in progress; some plowing yet to do—delayed by dry weather.

Crawford.—Too dry; very little wheat sown; stock water getting scarce.

Doniphan.—Corn drying up rapidly; hay crop good; apples falling badly.

Franklin.—A cool week; corn-cutting quite general; threshing nearly completed; clover-hulling begun.

Jackson.—A good week for drying corn; less corn cut than for years, on account of the weather drying it up too rapidly; some wheat being sown.

Jefferson.—Good week for maturing corn; corn-cutting in full progress; apples still falling badly.

Labette.—Very dry week; trees shedding leaves; pastures drying up; corn too dry to

ground in good condition; threshing delayed by rains.

Cloud.—Wheat-sowing nearing completion, early-sown coming up in places.

Cowley.—A fine week for farm work; wheat-sowing progressing; pastures improved; apples ceased falling since the rain of 9-10th.

Dickinson.—Cool week; corn drying rapidly; Kaffir- and sorghum-cutting; seeding mostly done.

Edwards.—Fine rains have put the ground in good condition for fall seeding; threshing nearly finished; good prospect for average acreage of fall wheat.

Harper.—Very favorable week for farm work; late rains have improved pastures; indications are that not so large an acreage as last year will be sown to wheat.

Harvey.—Fine week for seeding, early sowing coming up nicely; cattle doing well; threshing well along.

Kingman.—A good week for plowing and seeding; wheat-sowing in full progress; rye mostly sown; late cane and Kaffir-corn helped by last week's rains.

McPherson.—Late rains put the ground in fine condition for seeding, which is in full progress.

Phillips.—The hot, dry winds have cured the corn; haying about done; some are seeding; chinch-bugs numerous.

Reno.—Comfortable week; plowing for wheat about finished; wheat-sowing begun, with ground in good condition; threshing continues; prairie-haying nearly completed, a good crop of fine hay having been secured; Kaffir forage being cut, that planted for seed ripening and will make a good crop; winter apples being gathered, moderate crop, good quality; new corn in market.

Republic.—Showers on 10th and 16th; very windy 13th to 15th.

Rush.—Threshing interrupted by rains last week and this; considerable seeding done—earlier than last year, with prospects for a good growth this fall; corn all good, will be the largest crop ever grown in the county; potatoes fine yield and quality.

Russell.—A fine week for seeding, ending in rain; threshing nearly completed, interfered with somewhat by damp weather.

Saline.—A pleasant week, ending with a good rain; wheat-drilling has been pushed during the week.

Stafford.—Wheat-sowing has begun; pastures improved by the late rains; stock doing finely; late Kaffir-corn improved.

Sumner.—The late rains have put the

braska at definite hours, so that parties interested could be at the depot and see the train. They then sent out cards to thousands of farmers throughout the country, showing the scheduled time for the train, and no doubt many thousands availed themselves of the opportunity of seeing the train.

While at the Holton fair the writer visited the La France Fruit Farm, two miles southwest of town. This farm is the property of F. W. Dixon, who took great pleasure in pointing out the many different rows of strawberry plants, all of which are in excellent growth. The same can be said of his raspberry and blackberry plants. In fact, none better can be found this season anywhere west of the Mississippi. The good housewife was equal to the emergency by having a bountiful repast awaiting us; and after partaking of same, it was decided that this was the place to buy choice plants. Watch for Mr. Dixon's advertisement, to appear soon.

"To throw good money after bad will but increase my pain." If you have thrown away money for medicines that did not cure, now begin taking Hood's Sarsaparilla, the medicine that never disappoints.

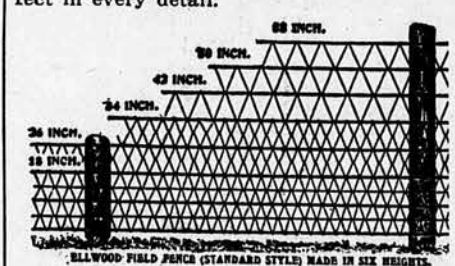
Hood's Pills cure sick headache, indigestion.

The Ellwood Woven Wire Fences.

have had a remarkable season of prosperity, so far the present year sales of all the various styles being much more than double any previous record.

That the woven wire fence has come to stay and must inevitably supersede all other forms of fencing in the near future is a foregone conclusion. A properly constructed woven wire fence, properly put up (that is to say stretched perfectly taut, with posts so braced and anchored that there can be no loosening), is a form of fencing that is practically everlasting.

Of course this is true only in cases where fences are made of a high quality of wire and galvanized so heavily as to be absolutely proof against rust. The Ellwood fences are made of a tough spring steel wire, made especially for these fences direct from the ore, and thus the guarantee of satisfaction given by their manufacturers is based upon absolute knowledge of the quality of steel and the rigid system of inspection under which not a single rod of fence is shipped unless it is absolutely perfect in every detail.



The Ellwood fences are sold by local agents in almost every city of the United States and Canada, but should no agency have yet been placed in your town, persons needing an efficient farm, field, or ranch fence, secure against outbreking or in-breking horses, cattle, hogs, pigs, sheep, dogs, poultry or rabbits should address the manufacturers, American Steel and Wire Company, Chicago or New York.

DON'T RENT.—BUY

OWN your home place and feel an independence that a tenant farmer never knows. Railroad lands can be had nearly as cheap as you pay in fees for entry on government lands, and the conditions upon which you can secure perfect title are not so burdensome. There is a great future for farmers who either settle on or purchase a farm along the line of the Chicago, St. Paul, Minneapolis & Omaha Ry. Co. in Northern Wisconsin, between the Twin Cities and the head of the Lakes. Now is the time, **FARM** is yours with but a little money and a little effort. These lands are suitable for grazing and diversified farming, and there is much hardwood timber. Colonies will find much room for large tracts. For Land Seekers' Excursion Tickets apply to your home agents, and for handsome map and illustrated folder, address Geo. W. Bell, Land Commissioner, Hudson, Wis., or T. W. Teasdale, General Passenger Agent, St. Paul.

In Northern Wisconsin.

THE STRAY LIST.

FOR WEEK ENDING SEPTEMBER 7, 1899.

Ottawa County.—W. M. Truitt, Clerk.

MARE—Taken up by E. A. Richards, in Henry tp., August 2, 1899, one brown mare, left hind foot white; valued at \$12.

FOR WEEK ENDING SEPT. 14, 1899.

Cloud County.—A. R. Moore, Clerk.

HEIFER—Taken up by Leroy Bishop, in Lyon tp., (P. O. Glasco), August 1, 1899, one 2-year-old roan heifer, with white face; dehorned.

Labette County.—E. H. Hughes, Clerk.

MULE—Taken up by B. C. Murphy, (P. O. Edna), August 18, 1899, one dark brown male mule, 3 years old, mealy nose, old wire out on point of left shoulder and on right knee; valued at \$30.

MULE—By same, one black male mule, 3 years old.

Wichita County.—P. M. Reinhegger, Clerk.

MARE—Taken up by W. H. Burch, in White Woman tp., August 26, 1899, one bay mare, sore neck, mane out-off, A. on left thigh; valued at \$30.

FOR WEEK ENDING SEPT. 21, 1899.

Crawford County.—F. Cunningham, Clerk.

MULE—Taken up by Nels Smith, in Sherman tp., September 13, 1899, one brown mare mule, 18½ hands high, slight collar marks; valued at \$30.

MULE—By same, one brown mare mule, 13½ hands high, small white spot at top and back part of right hip; valued at \$30.

Both supposed to be about 6 years old.

Special Want Column.

"Wanted," "For Sale," "For Exchange," and small or special advertisements for short time, will be inserted in this column, without display, for 10 cents per line, of seven words or less, per week. Initials or a number counted as one word. Cash with the order. It will pay. Try it!

SPECIAL.—Until further notice, orders from our subscribers will be received at 1 cent a word or 7 cents a line, cash with order. Stamps taken.

FOR SALE—What's Wanted Jr. 2d No. 18534, good enough in show condition to go anywhere. Extra fine breeder; am closing out. Sired by the show boar What's Wanted Jr., No. 10026. First dam Fanta No. 41844, and four dams back of her are prize-winners. F. W. Baker, Council Grove, Kan.

FOR SALE—150 head of Colorado cows; all 4 years old; good colors; bred to good Shorthorn bulls. Write for particulars to Wm. Ramsey, Solomon, Kan.

FOR SALE—Poland-China boar, Highland Wilkes 20867, by Highland Chief, by Chief Tecumseh 2d, age 16 months; \$30 if taken soon. He won second in class and headed sweepstakes herd, Iowa fair. Also, the 2-year-old sow—Tecumseh Lady, of same herd, \$25. Have Barred and White Plymouth Rocks, Buff Cochins and M. B. turkeys for sale. Address A. B. Mull, Iola, Kan.

FOR SALE CHEAP—Good improved farm cheap if taken before October 1. 160 acres in Anderson County, good buildings, good orchard, good fences, plenty water; two miles from station and post office. For particulars, see or write owner, James Wright, Haskell, Kan.

POLAND-CHINAS—No better anywhere. \$5 each. Write for breeding. M. C. Hemenway, Hope, Kan.

FOR SALE—September 20, 1899, at Rose Hill, Kan., beginning at 10 o'clock a. m., four black Percheron and one standard-bred Wilkes stallions, seven jacks, four black, three gray, eleven jennets all first-class, eight brood mares, one gelding, two yearlings and two spring colts. Terms, bankable note six months time 8 per cent, or 8 per cent off for cash. H. C. Staley, owner; J. A. Benner, auctioneer.

STRAWBERRIES—Irrigated plants for fall and spring setting for sale. Write for price list. H. E. GOODELL, Tecumseh, Kan.

RAMS FOR SALE—A few choice thoroughbred B. Cotswold and Shropshire rams at \$10 per head. Write or call on Geo. B. Bell, Wakarusa, Kan.

FOR SALE—Twelve yearling grade Shropshire rams \$12 to \$15. Also breeding ewes. B. W. Melville, Eudora, Kan.

WANTED—To sell Polands and Berkshires; all ages. Very cheap. O. P. Updegraff, North Topeka, Kan.

BOAR PIGS—Sired by Hadley Model T 21927 for sale. Walter Roswurm, Council Grove, Kan.

DUROC JERSEY SWINE—Choice registered stock from best of families. For sale by J. C. LEACH, Carbondale, Kansas.

DUROC-JERSEY SWINE—Young boars and gilts from best strains. None but first-class stock shipped. J. W. Shepherd, Chanute, Kan.

FOR SALE—10 high-grade Hereford and 10 high-grade Shorthorn bulls, 12 to 20 months old. Address Hugh A. Hodgins, Topeka, Kan.

PURE-BRED Aberdeen-Angus cows and heifers; also bull calves old enough to wean, can be got from Conrad Kruger, Pfeiffer, Kan.

BREEDERS' ANNUAL REPORT FOR 1899—The great Kansas Live Stock Manual and proceedings of the Ninth Annual Convention of the Kansas Improved Stock Breeders' Association, contains 125 pages; price 25 cents. Address H. A. Heath, Secretary, Topeka, Kan.

FOR SALE—Imported English Coach stallion and Galloway bulls. W. Guy McCandless, Cottonwood Falls, Chase Co., Kan.

WRITE TO ALEX RICHTER—Hollywood, Kas., how to sub-irrigate a garden, etc., and cost of same. Send him the size or dimensions of your garden, and he will give full information.

WANTED—Every breeder in Kansas to become a member of the Kansas Improved Stock Breeders' Association. Send membership fee of \$1.00 to H. A. Heath, Secretary, Topeka, Kan., and you will receive the Breeders' Annual Report for 1899.

FOR SALE—Imported and full-blood Percheron, Clydesdale and Coach stallions. Good individuals, colors and ages. For further information address W. H. McMillen, Manager, Box 204, Topeka, Kan.

675-ACRE FARM FOR SALE—Only ten miles from the State capital; improved; has never-failing water. \$15.50 per acre if taken soon. Address J. Ferguson, Station B, Topeka, Kan.

BERDEEN-ANGUS BULLS—Twelve extra individuals, serviceable ages; registered. Wm. B. Sutton & Son, Russell, Kan.

FOR SALE—Hadley Model T. No. 21927. Will take a boar pig of superior breeding and difference. Walter Roswurm, Council Grove, Kan.

FOR SALE—1,500 Angora goats. Young wethers, nannies and kids in lots to suit customer. They will kill all brush. R. C. Johnston, Lawrence, Kan.

BLOSSOM HOUSE—Opposite Union depot, Kansas City, Mo., is the best place for the money, for meals or clean and comfortable lodging, when in Kansas City. We always stop at the BLOSSOM and get our money's worth.

FOR SALE—A livery barn with complete outfit. Only one in town, has splendid business, but owing to bad health am compelled to have change of climate. Earns \$100 net per month. Address H. B. Duncan, Hope, Kan.

\$10 REWARD for information leading to return of stolen bicycle, '98 Columbia No. 3352. F. H. Holt, P. O. Building, Topeka, Kan.

I CAN SELL YOUR FARM—No matter where located. Send description and price, and learn my wonderfully successful plan for selling farms.

OSTRANDER, 1215 Filbert st., Philadelphia, Pa.

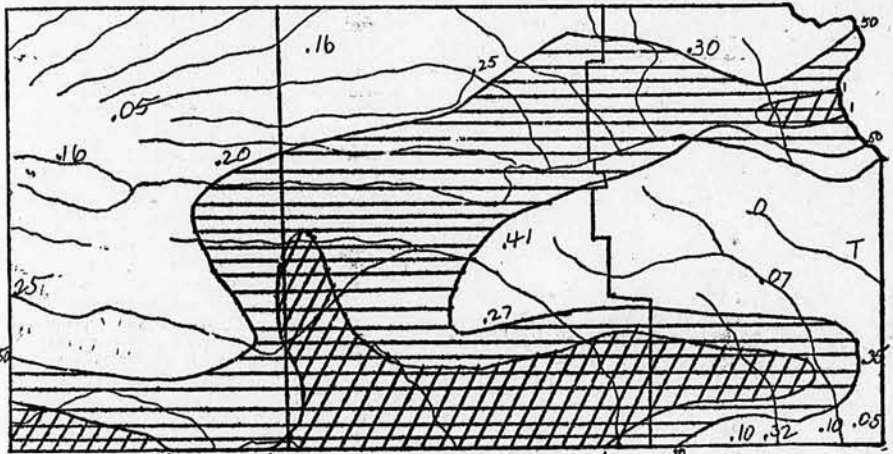
FOR SALE—Three thoroughbred Shropshire rams, or will exchange for others; also a few stock ewes. Cleland & Benedict, Olpe, Lyon Co., Kan.

FOR SALE—80-acre farm, improved, 7 miles from Topeka; price \$2,000; or will trade for larger farm in eastern Kansas. W. F. Beaver, Station B, Topeka, Kan.

CANCER and tumors cured in one month, with my home treatment, for \$25, or money returned. Write for testimonials. Dr. J. Clement, 404-5 Husted building, Kansas City, Kan.

\$40 to \$100 a month for man to manage an office at home, appoint and superintend agents. Chance for advancement. Permanent position. Write now. K. & K. Manufacturing Co., 56 North Sixth St., Philadelphia, Pa.

Please mention Kansas Farmer when writing our advertisers.



ACTUAL RAINFALL FOR WEEK ENDING SEPTEMBER 16, 1899.

cut, and will be light and chaffy; too dry to sow wheat.

Leavenworth.—Cool, pleasant growing week; Kaffir-corn filling well; late potatoes looking fine; apples dropping badly; melons abundant; pastures short; stock doing moderately well.

Lyon.—Corn not quite so good as believed; yield of potatoes fair.

Marshall.—Haying about completed, a large crop of fine quality; ground still too dry and hard for wheat-sowing, but some is being put in; potatoes turning out well.

Miami.—Warm days, cool nights; apples a poor crop; no peaches; corn crop being gathered, never better.

Montgomery.—A cooler but dry week; some wheat has been sown, but much of the ground can not be gotten in condition to seed without rain; a smaller acreage will be sown than last year; corn is being husked, some early planting very good, much of the late a total failure.

Osage.—Corn drying rapidly; late corn will make about half a crop; new corn of fine quality on market; pastures getting short; rain needed for plowing.

Pottawatomie.—Corn-cutting nearly completed; ground in good condition for sowing wheat; apple crop short on account of windfalls.

Riley.—Temperature 3° above normal; rainfall 0.34 inch above normal; sunshine in excess; a favorable week; pastures in good condition.

Shawnee.—Corn-cutting nearly completed; wheat-sowing in progress, soil in fine tilth; apples still falling badly; pastures good; stock doing fairly well.

Wilson.—Fine rains have put the ground in good condition for sowing grain and helped the pastures; farm work well along, except wheat-sowing.

Woodson.—Corn-cutting and haying finished; dry weather diminished yield of late corn considerably; grass still green, making good pasture.

MIDDLE DIVISION.

Plowing for fall seeding is generally finished, though in a few counties it still continues, and in Barber has begun—owing to the drought being broken. Wheat-sowing has begun in Phillips, Reno, Stafford, and Sumner, is progressing in Barton, Cowley, Kingman, McPherson, Rush, Russell, Saline, and Washington, and is nearly done in Cloud and Dickinson. In Cloud and Harvey the early-sown wheat is coming up. Rye-sowing is nearly finished in Kingman. Apples have ceased falling in Cowley, while in Reno a moderate crop of good quality is being gathered. Rush reports the largest crop of corn ever grown in the county.

Barber.—A good week for farm work; plowing for wheat commenced; pastures and late-planted Kaffir greatly benefited by recent rains; cattle in good condition and stock water plentiful.

Barton.—Wheat-sowing in full progress;

ground in fine condition to work; plowing about done and drilling begun.

Washington.—A dry week, ending in rain; wheat-sowing well under way; good progress made in haying; new corn being fed to hogs; dry weather has affected weight of corn.

WESTERN DIVISION.

Wheat-sowing has begun in Ford and is progressing in Trego. Range-grass is fine in Wallace and has freshened in Trego. Large crops of forage are being cut. Haying continues; in Ness the fox-tail has made as good hay this year as millet generally does.

Decatur.—Past week good for farm operations.

Ford.—Sowing winter wheat will begin this week; ground in fine condition.

Hamilton.—Good haying weather up to the 15th, and farmers busy; week ends with a cold, drizzly rain.

Haskell.—The rains helped the late feed; feed-cutting general; no fruit this year.

Morton.—Cooler, favorable for haying and fodder crops.

Ness.—Threshing resumed; not much plowing done yet; the largest crop of feed-millet, Kaffir-corn, sorghum, and broom-corn (for feed)—ever raised in the county; the fox-tail grass made as good hay as millet usually does; week ends showery.

Trego.—Light rains previous week mellowed the soil; week favorable for seeding and plowing; range-grass has freshened up since the rains; first part of week wet for haying and threshing, last part too windy for either; a large crop of potatoes gathered.

Wallace.—Range-grass fine; rain 15th; light frost 16th, no damage.

NOTE—Next week's bulletin will be the last for this season, and correspondents are requested to make full reports, especially on wheat-seeding, growing wheat, where it is up, and the apple crop.

Publishers' Paragraphs.

The value of the best modern catalogues as books of reference and valuable information as to machinery is well illustrated by two up-to-date pamphlets just published by the American Well Works, of Aurora, Ill.

One of these is devoted to well-sinking machinery, including gasoline engines, while the other treats of pumping machinery, including air water-lifts and air compressors.

These are sent free on application and should be in the hands of everybody who either sinks wells or pumps water.

The Combination Fence Works, of Council Bluffs, Iowa, have undertaken a novel method of advertising their woven wire fencing and corn-cribs. On September 15 they started a solid train loaded with their goods, which was scheduled to be at various places in the States of Iowa and Ne-

The Home Circle.

THE ENDURING.

A misty memory—faint, far away
And vague and dim as childhood's long lost day—
Forever haunts and holds me with a spell
Of awe and wonder undefinable.
A grimy old engraving tacked upon
A shoeshop wall. An ancient temple drawn
Of crumbling granite, sagging portico
And gray, forbidding gateway, grim as
a cave.
And o'er the portal, cut in antique line,
The words—cut likewise in this brain of
mine—
"Wouldst have a friend? Wouldst know
what friend is best?
Have God thy friend; He passeth all the
rest."

Again the old shoemaker pounds and
pounds
Resentfully as the loud laugh resounds
And the coarse jest is banded round the
throne.
That smokes about the smoldering stove;
and long,
Tempestuous disputes arise, and then—
Even as all like discords—die again.
The while a barefoot boy more gravely
heeds
The quaint old picture, and tiptoeing reads
There in the rainy gloom the legend o'er
The lowering portal of the old church
door—
"Wouldst have a friend? Wouldst know
what friend is best?
Have God thy friend; He passeth all the
rest."

So older—older—older, year by year,
The boy has grown, that now, an old man
here,
He seems a part of Allegory, where
He stands before Life as the old print
there—
Still awed and marveling what light must
be
Hid by the door that bars Futurity;
Though ever clearer than with eyes of
youth,
He reads with his old eyes—and tears for-
sooth—
"Wouldst have a friend? Wouldst know
what friend is best?
Have God thy friend; He passeth all the
rest."
—James Whitcomb Riley, in Scribner's.

A KING'S MANIA.

If Ludwig II, the young king of Bavaria, was mad, it was from excess of majesty. The monarch of one of the smallest kingdoms of the world, his opinion of himself was magnificent beyond all dreams of grandeur. Ordinarily people were not sufficiently exalted to be his companions; ordinary occupations afforded him no gratification; all the chateaux and palaces which he inherited when he came to the throne were squalid for one so great. Architecture and building were his ruling hobbies, and he was thus able to gratify the one delusion by building magnificent edifices, the second by occupying his time in the most extraordinary fashions, and the third by shunning society and escaping the inspection of ordinary eyes, either in his gorgeous retreats, or by retiring to one of the more humble dwellings he erected on various mountain summits, where a few attendants awaited his unexpected visits. Ludwig's mania for solitude took the most unexpected twists. He enjoyed his own company best on these occasions when people whose minds are less phenomenally balanced consider companionship most essential. It was his fancy to have dramatic and musical performances for himself alone. Unfortunate theatrical managers alone. Unfortunate theatrical managers and indignant musical directors, not daring to resist the royal whim, were driven to waste their talent by providing entertainments. The theater was darkened, the orchestra, the chorus, and the full dramatic company were grudgingly provided, one and all detesting the work of putting forth their best efforts for the amusement of an empty house, save for the solitary figure sitting silent and motionless in the shadow of the royal box. Music Ludwig loved, and many of his wildest extravagances and maddest acts of prodigality were due to the influence of Wagner, his one friend and adviser. It was Wagner who prompted his most transcendent folly, the erection of a huge theater at Bayreuth for that composer's glorification. One performance alone entailed an expenditure of £20,000.

Reared from his childhood amidst the most enchanting scenery, Ludwig dearly loved the lonely mountains and the rich, silent forests in which his possessions were so rich. Delighting to turn night into day he would order his horses after dark, and the jingle of his sleigh bells and the big crack of the postilion's whip would bring the peasantry to their bedroom casements to see a brilliant equipage flash by, a phantom that vanished in a whirl of snow-dust, a dream of red and gold and blue and silver, and above the head of the silent occupant two crowns glowing with electric light. It was only the simple inhabitants of the Bavarian Alps who ever caught a glimpse of these fairylike vehicles. The front of one was formed by a gigantic shell borne by Tritons, with little Cupids seated on its edge, whose tiny arms carried back wreaths to the royal occupant. The ornamentation of another was so profuse that but three small spaces were left on the panels, and these were occupied by delicate mythological scenes painted by the

hand of a famous Munich artist. The king's sleighs were never drawn by fewer than four horses. He appears to have been fond of these animals, whom he called his "dumb courtiers." But like everything else about him, they were compelled to suffer in order to gratify their master's fancies. During the winter of 1874 instructions were sent to the royal stables that the thirty best horses they contained were, for several days, to be fed on nothing but oats. The grooms imagined that they were to be entered for a race. Though a blinding snowstorm was raging, Ludwig commanded some workmen to at once set about erecting a wooden tower in the forest adjoining his palace and round this tower a gallery was to run. Finally, when his plans were matured, he stationed an orchestra of wind instruments near this erection, taking up his own position on the balcony. In the corn-fields near he had scattered here and there, drums and kettles, and some soldiers with rifles loaded with powder, and an order was given that each man should remain hidden and silent. At a given signal the horses were led quietly to the foot of the tower. Then the King gave a sign, which was understood by the leader of the orchestra, by the drums, kettles, trumpets and soldiers. In an instant the most infernal hubbub broke forth. Each drummer vied with the other to beat louder, the trumpeters nearly burst their cheeks, there were powder explosions, shrill whistles and most diabolical howls. The terrified horses broke their fastenings. Mad with terror they reared, wheeled, zigzagged; plunging and kicking they galloped here and there; with blood-red nostrils and floating manes they bolted in all directions to the jeopardy of the orchestra and the terror of the drums and kettles in the fields. One by one they disappeared over the horizon, white with foam, still snorting and rolling their eyes. It was days before some of them were found, many of them were picked up enfeebled, still wild and terrified. Some had reached the mountains, others had penetrated the woods or become engulfed in the marshes. His majesty, however, was well amused.

The tricks Ludwig played on his horses he also inflicted on his servants. Every one about him was in danger of life and limb. He injured at least thirty persons and one he killed. It is not to be forgotten, however, that he was mad, and ought long before this to have been under medical charge.—Pearson's Magazine.

How They Treated Dewey at Nice.

The French may not think that the Admiral won a great victory; their sympathies in the late war may have been with Spain. A morning paper, in an account of the admiral's deed, says: "Our readers know that he is celebrated for having destroyed with a modern squadron, well armed and armored, the poor wooden ships of the Spaniards grouped under his cannon at Cavite." Possibly that is the general opinion of the French people. It does not matter this way or that to anybody, unless to them, what they think. For, thanks to their punctiliousness, officers and men have had every favor they could desire or expect unless they were Russians. If they were Russians they would have been hugged and kissed, so they are glad that they are not Russians.

The admiral said he would be here at 8 a. m., and at just 8 a. m. the Olympia was made fast to the buoy nearest the shore which Monsieur the Commissaire had reserved for her.

Monsieur the Commissaire was at Villfranche at 7 ready to welcome the Admiral in the name of the Admiral de la Jaille, Maritime Prefect of Toulon. It would have broken his heart if a full admiral had been compelled to wait an hour after his flagship anchored to receive this welcome.

Rear Admiral Bienaime, who commands the superior school of the navy, was in the harbor before the Admiral, having come here as a matter of respect to one holding the position of a full admiral in the navy of a friendly power. His flagship, the Admiral Charner, and the Davoust and Friant were grouped around the vacant buoy which awaited the coming of the distinguished guest. Just as a little tug came purring out, as if she were as pleased with her position as a cat on a rug before the fire, to assist the Olympia to the buoy, our flagship, her whiteness intensified by the nearer contrast with the French cruisers, responded to the Admiral Charner's salute with a salute to Admiral Bienaime. With the echo of her guns dying away, while she was swinging up to the buoy, the strains of the Marseillaise burst from the band on the Olympia's afterdeck. "I know your song, we have a song of freedom in America. Already I feel at home," the visitor seemed to say.

In ten minutes after the Olympia was at anchor Admiral Bienaime was on board to pay his official call. Admiral Dewey told him what a pleasure it was to visit a port which he associated with the most pleasant recollections; and he drank a glass of champagne with Admiral Bienaime. After

Admiral Bienaime came Monsieur the Commissaire, in the proper order and at the right moment, mounting the gangway with a step as light as that of the Admiral himself. He expressed to the Admiral the best wishes of the Maritime Prefect of Toulon. The Admiral said that he would send Captain Lambertson ashore on the following day to return the call.—Frederick Palmer, in Collier's Weekly.

He Sized Them Up.

"Now, my dear, I want you to be very kind to your Cousin George when he comes," said the girl's mother.

"Oh, mamma! I simply can't tote him all over Detroit, and I don't think you ought to expect me to."

"But you must entertain him nicely while he's here. He probably will not stay long."

"How do you know? We've never seen him—we don't know anything about him. Dear me! I think it's horrible! I don't see what he's coming for. Just suppose he's dreadfully awkward and doesn't know how to act! Why it would be too embarrassing for anything! And the girls have been studying genealogy at the library for the last two weeks, and they're awfully critical about one's relations."

The next afternoon a coupe drove to the door, and a young man alighted. It was George. He was an athletic young fellow, who, though he had hailed from a small western town, had been educated abroad and was as fine a specimen of manhood as could be found. Marguerite was delighted. The relief was great. She gushed profusely over her new-found cousin, and offered him all sorts of social inducements to spend a week. But he left the next afternoon.

"What was the matter—why didn't you stay longer with your Uncle Henry's family?" said his father after he had reached home. "Didn't you like them?"

"No. They were the shoddiest lot of people I ever ran across."—Detroit Free Press.

The Queen's Wealth.

We have often heard that the Queen of England is an exceedingly rich woman, but few people are really aware of the enormous wealth she possesses. Its full amount will never be known for the wills of royal personages are not disclosed. As mere items of her present income, however, may be mentioned the yearly sum of £30,000 which Parliament allotted to her spouse, Prince Albert and which has been paid her ever since his death as the widow of that pensioned personage. Her mother, the late Duchess of Kent, left her £8,000 a year. Thus nearly two hundred thousand annual dollars go to swell her private purse, wholly outside of her royal revenues, which nobody mentions in any exact terms and of whose real amount nobody save certain reticent officials are perhaps aware. Individuals, it is well known, have on several occasions bequeathed the Queen large fortunes. Her property in jewels alone is something prodigious. Her gold plate, stored at Windsor Castle and brought to London for use at court festivities at Buckingham Palace, is of vast value. It chiefly consists of dishes, flagons, stands and shields, and has been accumulated, through many past generations, by the monarchs who preceded her. Other treasures in the way of furniture, apparel, household ornaments, tapestries, rugs, carriages, horses, etc., would reach huge sums if reduced to pounds, shillings and pence. Unless I am greatly in error, all the royal palaces are exempt from taxation, and the state defrays the huge expenses of maintaining each. It is now and then affirmed, and not without truth, that a President of the United States has more power than the Queen of England. But his yearly £10,000 make a piteous showing beside that copious stream of gold which pours continuously into the coffers of Windsor. And when one thinks of the £100,000 per annum given the Prince of Wales, and the smaller yet regal incomes distributed among his brothers and sisters, one realizes the tremendous financial benefits which royalty obtains in one of the richest nations of the world.—Edgar Fawcett, in Collier's Weekly.

Way Found at Last to Keep Hair Curled.

"Happiness is, at last, mine," said enthusiastically a summer girl whose hair was beautifully coiffed and covered her head in the large, even, pretty waves that are usually regarded as so inimitable.

"And why so," inquired her friend whose hair bore the subtle stamp of nature's twisting.

"Because I have found a way to keep my hair in curl," she answered joyfully. "The densest sea fogs and the humid, summer air of the mountains have become alike indifferent to me. I laugh at them both. Then it is so simple," she continued gleefully. "I take the white part of an egg and dilute it in an air-tight jar where it will remain fresh for one week. At night, I saturate a comb with this mixture and pass it through my hair until it is

well moistened, then I divide it into strands and wrap it around on long kids. This must not, however, be done carelessly, or the hair will eventually present a jumbled, crinkled appearance very different from the symmetrical waves which are to be desired. Herein lies another secret. Each strand must be as tightly twisted as a cord before it is wrapped around the kid. In this way the waves are induced to form of the same size and to follow an unbroken line across the head. About six kids, four for the front and sides and two for the back hair, are the number that are used to give an all-over curled effect. The remainder of the hair, that about the crown of the head, is what is taken up and arranged in the knot on the top of the head.

When, in the morning, the hair is combed out, it will appear to have increased doubly in quantity, owing to the application of the white of the egg and water, and will be found to possess a stability and firmness which have hitherto been unknown to it. Each hair stands out away from the head, and in texture is very similar to that which curls naturally. If managed properly no trace of the white of egg is to be seen. During ordinarily warm weather, even though the head is apt to perspire, this performance needs only to be gone through with every third or fourth night.—Philadelphia Inquirer.

Queerest Pearl Ever Found.

A unique and beautiful gift was presented to Louis XIV of France by a Genoese, Gianetino Sameria. It was a pearl weighing a hundred grains, and had been brought from the Indies by one of this gentleman's relatives. But the most striking part of the matter was not its weight but its form. It was the exact shape of the torso of a man from the neck to the knees. Sameria had the pearl mounted in so artistic a manner that it was the wonder of the French court. The pearl was utilized for the body of an armed warrior. The head and arms were of hammered gold, tacked to the pearl by gold nails. The casque and plumes were also made of gold and set with diamonds. The cloak and sash were of gold enameled in blue with gold fleur de lis scattered over it; the legs from the knees down were of gold; the lance was of gold, with a single diamond for its head, shaped to a point. Three large diamonds form a perfect fleur de lis, and are surmounted by a gold crown, set with diamonds, having a small fleur de lis on top. An angel, also made of hammered gold and carrying a trumpet in one hand, supports the large fleur de lis and crown with the other.

The trophies lying on the pedestal are a drum set with diamonds, a cuirass, buckler, another casque, a turban, a banner with a diamond point, a saber and a gun. Thirty-two large diamonds, rubies and topazes in alternation form the border of the pedestal, which is supported by four gold sphinxes.—Philadelphia Inquirer.

Polly's Burial.

Their parrot had died, and young Master Tommy, with his little sister Jennie, had just concluded the funeral services over the grave of their feathered pet.

"I s'pose Polly is in heaven now," remarked Jennie, tearfully.

"Yes," returned Master Tommy; "I s'pose he is."

"He—he's got wings, but he wouldn't be an angel up there, would he?" inquired the little maid, anxious about his present status.

"Oh!" cried Tommy; "he wouldn't be an angel; only people is that."

"Then what do you s'pose he is now?" persisted his sister.

Tommy thought for a moment. Then the light of inspiration dawned on his beaming countenance.

"I guess Polly is a bird of paradise now," he announced joyfully.—New York Herald.

Chronic Nasal Catarrh poisons every breath that is drawn into the lungs. There is procurable from any druggist the remedy for its cure. A small quantity of Ely's Cream Balm placed into the nostrils spreads over an inflamed and angry surface, relieves immediately the painful inflammation, cleanses, heals and cures. Drying inhalants, fumes, smokes and snuffs simply develop dry catarrh; they dry up the secretions which adhere to the membrane and decompose, causing a far more serious trouble than the ordinary form of catarrh. Avoid all drying inhalants, use Ely's Cream Balm. It is reliable and will cure catarrh, cold in the head and hay fever easily and pleasantly. All druggists sell it at 50 cents or it will be mailed by Ely Brothers, 56 Warren St., N. Y.

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The Young Folks.

TO EUGENE FIELD.

The skies are all so gray and cold,
Eugene,
So free from mellow tinge of gold,
Eugene,
I wonder if they share our silent sorrow
Since thou hast found the way to Life's
to-morrow—
Since thou has left this earthly scene
To climb sublimer heights,
Eugene?

The days are dreary, sad and long,
Eugene,
Since last we heard thy gentle song,
Eugene;
Dost sing it still in some bright land and
fainter,
In softer strains, with defter touch and
rarer,
And inspiration sweeter glean
Beyond this vale of tears,
Eugene?

If so, perchance there'll come a day,
Eugene,
When once again thy sweetest lay,
Eugene,
Will softly touch our heartstrings as of
yore,
And we shall hear thy songs forevermore—
Perchance some time Life's shifting
scene
Will bring us soul to soul,
Eugene.
—George B. Adams.

Written for Kansas Farmer.

YOUNG FOLKS IN THE OLD COUNTRY.

BY ANNA MARIE NELLIS.

NUMBER 67.

KARLSBRUECKE.

We would call it Charles' Bridge; the German Bohemians speak of it as Karlsbruecke, while the Czech Bohemians, when they want to mention it, take a long breath and say: "Staromestska Mostecka Vez" or "Karlův Most a Mala Strana," so I presume it is proper to call it most "any old name," especially as "most" is the Czech word for "bridge." It is 1,638 feet long—nearly one-third of a mile. It is a good Christian bridge and exhibits thirty statues and groups of saints. It also has a large and costly crucifix, which was erected in the year 1606. It seems that the King of Bohemia who ruled at that time wished to ornament the bridge some more than it had before been adorned, and he was short of funds. Someone told him that a Jew down on Main street somewhere had "reviled the cross." The Jew had lots of money hid away; so the good King decided to punish that wicked man for his sin. He ordered that the Jew should be shut up in prison and that his toes be pinched until he should tell where his money was. He did so; and in that way the good King received enough money to erect this beautiful crucifix and also to fix up the bridge in other respects.

The most prominent statue on the bridge is that of St. John Nepomuc; and this gentleman while alive was a good father in the church. One day the Emperor Wenzel wanted the church father to tell him what the Empress (Wenzel's wife) had told at confessional. The good father, of course, refused to reveal what he had heard in sanctuary. Wenzel was awfully jealous of his wife, and insisted on getting the information, but still he failed to find out. Then the Emperor had John flung from this bridge into the River Moldau. This was in the year 1383. A slab of marble with a cross on the right, marks the spot on the bridge where John was thrown over. He was an exceedingly good man, and instead of being washed down stream by the rushing waters, his body just staid in the water right near an abutment of the bridge for five days, during which time five stars staid up all day as well as all night to shine right down on it, to mark the spot. Then they took the body out of the water and gave it a handsome funeral, because they then knew he had been a saint.

They marked the spot near the water's edge by five metal stars in the stone-work of the foundation of the bridge, which proves that the story is strictly true. In 1728 "the church" canonized him as St. John Nepomuc, and every year the bridge is visited by thousands and thousands of good Christians from Bohemia, Moldavia, Moravia, Austria and Hungary, who come to pray at the shrine of this saint. On May 16 is the festival of St. John Nepomuc, and then this bridge, it is said, is crowded all day. I saw seven devout ones kneeling before this statue.

HRADSCHIN.

When a stranger approaches the city of Prague from any direction, his first view of it is the immense pile of buildings on a hill, which can be seen nearly an hour, by train, before entering the city. This he is told is the "Hradschin," but the way it is pronounced would not indicate the manner of its spelling. If I had written it "by ear" it would have been "rat chin."

It is much easier to ride, but we concluded that if we would properly see the interesting city thoroughly, we would do well to walk through some of the narrow

streets, sometimes only five feet wide, to the top of the high hill upon which the palace, citadel, and old cathedral are located, and which locality is usually designated as the "Hradschin."

Starting from Karlsbruecke, we made our first stop at Teynkirche—the old Hussite church, in which John Huss used to preach; of course, everybody knows who he was, though I didn't. This church was begun in 1360, and one King of Bohemia was crowned in it in 1458. The famous astronomer, Tycho Brache, was buried under this church, but the principal point about the building to us was the chapel under which are the vaults containing the bodies of the family of Count Albrecht von Waldstein (known in history as General Wallenstein). We afterwards saw the stuffed horse upon which Wallenstein rode in many battles. I can not say it was in good repair—in fact, it needs more stuffing.

The next place visited was the Rathhouse, which I will not try to describe, except to mention an historical fact, that in front of it, on June 21, 1621, twenty-seven of the leaders of the Protestant party in the "Thirty Years War" were beheaded; their heads were carefully gathered up, put into iron baskets, were fastened to the towers of the Charles Bridge, where they were left for many a year as mementoes of an uncivilized age. You see, the Protestants and Catholics were having a dreadful time trying to make each other worship God according to the dictates of the other fellow's conscience. Well, it seems that the Elector Palatine Frederick was chosen by the Protestant Princes to be King of Bohemia; so he left his beautiful castle of Heidelberg and came to Prague to work at his new job. He wasn't a success in the king business at all, for at the first battle fought near Prague, called the battle of the White Hill (in English), he became awfully scared at seeing blood, and ran away to Hanover to visit his wife's relatives there. His Protestant army was annihilated, and the twenty-seven who were beheaded in front of the city building were his principal officers, and Bohemian noblemen.

One would think that such a coward as he was would never amount to anything; but he had a pretty good wife. She was Elizabeth, a daughter of James I. of England; and Frederick and Elizabeth became the parents of Sophia, who was the mother of George I. of England. When "Good Queen Ann" died, England began to hunt around for an occupant for its vacant throne, and found that Elizabeth and her heirs were entitled to it. So, instead of being Kings of Bohemia, Victoria and her folks have been monarchs of England. Frederick lost his job at Prague, but his descendants found another similar one in London.

Reaching the top of the hill, we are at the gates of the palace, called the "Burg." This palace is situated on the east side of "Hradschiner Platz," around which the huge buildings before mentioned are located, that attract the eye so far away. The great Hradschin itself is nearly in the center of the platz.

There are many interesting rooms in this old palace which are connected with the history of many Kings of Bohemia, for it was built before the year 1400, and was completed in its present condition by Maria Theresa about the year 1740. The one room which is most prominent to all visitors is the "Ladislav Hall," or "Hall of Homage," where mock battles used to be fought between knights in armor, and where the royal council used to meet. In this hall was enacted a farce which served as a beginning of the "Thirty Years War" in Germany. King Frederick of Bohemia was holding a council meeting to hear what two messengers from the German Emperor had to say; these messengers were named Martinitz and Slawata. They were Catholics, and what they had to say displeased Frederick and his advisers. Count Thurn, to show them that their argument was not good, threw them out of the window and they fell "head over heels" to the bottom of the hill. There happened to be a soft place (muddy, I suppose) where they fell and they were not much injured, except that their Sunday clothes were quite spoiled, but they were as angry about it as two noblemen could well be. Count Thurn wasn't satisfied to throw only them out, but he had his hired man throw out their secretary, Fabricus by name, and Fabricus was dreadfully angry also. The Emperor of Germany, to soothe the secretary for his ruffled dignity, a long while afterward gave him a title and he was then known as Count Hohenfall, which means "Count High-roller." Beneath the window where these gentlemen had a falling out, we saw two brass tablets, which were erected years and years ago to commemorate the event.

Well, those Counts were so mad they went home and their friends made war on Bohemia and drove Frederick to Hanover, as before mentioned. I don't know what became of that Count Thurn; but I think I saw his coffin at Regensburg the other day, but of that I'll talk some other time. He would have made an excellent pitcher for a Bohemian baseball club.

We left the "Hall of Homage" and, pass-

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ing through a gallery which connects the palace and the cathedral, we found ourselves in the oldest part of this great pile of masonry. It is the church of St. Vitus, or "Chram sv. Vita," as it is called by the Czech Bohemians. This part was finished 555 years ago, while there are parts of the great cathedral still unfinished. The highest tower was once 520 feet high, which is 9 feet more than the Cologne spire touches, but in 1541 it was injured by fire, and, in rebuilding, it was reduced in height to 323 feet.

Without trying to describe much of the interior, I will say that one chapel known as the "Wenzel Chapel," attracted the attention of our party more than any other portion of the church. It seems that this Wenzel was killed by his brother in 936, and now he is known as St. Wenzel. In this chapel is a fine monument to the saint, and behind it hangs his helmet and coat of armor. This chapel was built in 1358 and is inlaid with many precious stones. There is a ring in the door of this chapel which is said to be the one which Wenzel took hold of when he was killed at Alt-bunzlau by his brother, Boleslav.

Near by we saw the shrine of St. John Nepomuc, which is made of one and one-half tons of solid silver, and he also has a handsome silver sarcophagus, with silver curtains held apart by silver angels. Those angels are all right, no doubt, but whoever made them didn't violate the Second Commandment, for I don't believe there is anything "in heaven above, or the earth beneath, or in the waters under the earth" like them. But so much silver for one man seemed to indicate that John was the original sixteen to one fellow, sure enough.

Of course, we did not leave the cathedral without visiting the tomb of St. Vitus, and gazing on his coffin. He is the author, I think, of "St. Vitus' dance," but I am not sure.

On our right we saw the door which closes the entrance to the room where are kept the crown of Bohemia and the crown jewels belonging to the kingdom. Emperor Francis Joseph is by birth-right the King of Bohemia, but as he has so many other crowns to wear, he seldom if ever uses this one. I asked the old sacristan to show us this room. He explained that he would be just delighted to do so but it was fastened with seven different locks, and he showed us the different key-holes. The keys he said were held by seven different men—the Burgomeister of Vienna has one, several different Cardinals each have one, and some other folks in various cities held the others, and all must be there when the door is opened. I told him he needn't mind; I hadn't time to go in anyway, and that he shouldn't go bring all those folks from their work on my account.

The large chair we saw at the principal altar is sometimes occupied by the Cardinal. It is a royal appearing affair, with purple canopy, and looks like a king's throne. The Cardinal had died a few weeks before and no new one had yet been appointed to his place.

THE ABBEY OF STRAHOW.

From "Hradschiner platz" we went to "Loretto platz," and thence to "Pohozetetz platz," from which point we passed through an alley into "Strahower platz." I don't suppose these names will be very interesting, except for the purposes of curiosity, to know some of the names of the places in Prague. In this latter locality stands the Premonstratensian Abbey of Strahow. Now, I don't know what that big word, before the word abbey, means, but that is the way it is designated in the guide-book. Our book also said: "Pass to the left of the church, enter the next gateway on the right, and apply to the porter; ladies not admitted."

The abbey is on top of a big hill and the climb to get there required a great deal of exertion. In our party were three ladies and one gentleman. We did not stop, by reason of the admonition that ladies were

not admitted. We entered the court-yard, but saw no one. We passed to the other side to the door of a chapel. The door was locked, but we could see through the grating about thirty monks inside, all dressed in white gowns, at the altar saying noon prayers. We did not stop long but went to an open doorway, about fifty feet farther on, and decided here to begin our investigation. We knocked several times on the door but no one came, so we decided to try further. We went up the stairs, stopping at every landing and knocked for admittance. On the third landing we saw a long cord which appeared like a bell-cord; we used it as such. In a few minutes we heard some one coming who opened the door. He was a monk, and he was the finest-looking man I saw in all of Austria and Bohemia; the other ladies afterwards expressed a similar opinion. He was six feet tall, of stout "build" with the jolliest face one can imagine. He had large black eyes and "coal-black" hair. He wore a small black skull-cap, and his gown was of white flannel, with white cord around the waist; had it been built trouser-fashion instead of skirt-wise, I should have guessed he was rigged up for a tennis tournament.

We told him we wanted to see the abbey. He laughed a very jolly laugh and said that no women were allowed in the abbey, intimating that they would ruin the abbey business like they spoiled the Eden business in Brother Adam's time. However, he would make an exception in our case so far as to showing us the library and the grand view from the windows. He was exceedingly pleasant to us and seemed to take real pleasure in explaining everything in the library.

A innocent-appearing reading-table he upset with one hand, and lo, it was a step-ladder upon which one could reach the higher books. He said: "Now, ladies, if your parents choose a small husband for you, you must just get such a ladder and put him on it." Some one remarked: "We are Americans and do our own choosing." He took off his cap, and with a courtly bow, said: "Off with the cap to the American ladies." After he found we were Americans he seemed more inclined than ever to show us special attention. He was so much more jolly than any monk I ever saw, that I doubt Strahow walls will hold him many years.

He told us that very few Americans ever came to the abbey, and asked us to register our names, during which ceremony I took three "snap-shots" at him with our camera. From the window of the library we had a grand view of the city.

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KANSAS FARMER

ESTABLISHED IN 1863.

Published Every Thursday by the

KANSAS FARMER COMPANY.

E. B. Cowgill, Pres. J. B. McAfee, Vice Pres.
D. C. Nellis, Sec'y and Treas.

OFFICE:

No. 116 West Sixth Avenue.

SUBSCRIPTION PRICE: ONE DOLLAR A YEAR.

E. B. COWGILL, Editor.

H. A. HEATE, Advertising Manager.

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THE ANTI-TRUST CONFERENCE.

The Anti-trust Conference, held in Chicago last week, early developed signs of protest as well as anti-trust sentiment. The contention for control of the conference was spirited, and there was left some doubt as to which party was in the ascendant.

Since the discussion of the trust problem is likely to occupy a large share of public attention in the near future, it will be well for thoughtful people to acquaint themselves with the positions taken by representative men in this preliminary skirmish. The following abstracts are made up from the Associated Press reports of the meeting:

The contest for supremacy assumed a lively turn on the motion for appointment by the chair of a committee of fifteen, to whom should be referred all resolutions without reading or debate.

Governor Atkinson, of West Virginia, rising from a far corner declared that it was unfair to bind the delegates by resolution.

Ex-Governor Luce, of Michigan, thundered that the reference to a committee without reading or debate meant that many a well-meant effort would go to sleep in the hands of the committee—and sleep the sleep of death.

Edward Rosewater, editor of the Omaha Bee, won applause in an informal speech in which he declared that the people of the United States had the courage of their convictions. He averred that the conference should adopt such resolutions as it saw fit.

Upon the suggestion of W. Bourke Cochran, of New York, it was finally decided that the committee on resolutions consist of not only one representative of each State delegation, but of each national organization.

To this committee it was resolved that all resolutions be referred without reading or debate.

TRUSTS AND THE TARIFF.

Lawson Purdy, of the New York Tariff Reform Club, was then introduced, opening the tariff debate, speaking, in part, as follows:

"I do not contend that the only cause for combination which restrains trade is the tariff, but the tariff does foster and assist in maintaining such combinations.

"I believe we have passed the point where any objection can be raised to the abolition of protective duties on the ground that they sustain or raise wages. The truth is that the tariff, by shutting out foreign competition, enables the trusts to shut down domestic factories, employ less labor and thereby reduce wages. Mills make money by shutting down instead of by the production of goods."

Byron W. Holt, of New England Free Traders' Club, followed.

John F. Scanlon, of Illinois, took up the cudgel on behalf of the protectionists. He called forth a storm of mingled hisses and applause by declaring that it was a brave man who, after the experience of the last few years, would advocate a policy of free trade. He compared the conditions of the country at various times to show that prosperity was greatest when the tariff was highest.

Congressman Thomas Updegraff, of Iowa, followed in defense of the protective tariff system. He said in part:

"A monopolistic trust I am against. An aggregation of capital, however large, properly managed I am for. I am not fool enough to want to kill the goose that lays the

golden egg. I don't care whether the tariff is the mother of trusts or not. If the tariff be in any sense the mother of trusts, what would you do? I will tell you what we will do. We will take care of the mother and save her; we will raise her children in the admonition and nurture of the Lord. That is the way to manage trusts. You can not have rich soil without weeds."

The afternoon session was devoted to the papers on the "Relation of Agriculture to Trusts." Unfortunately the Associated Press gave no report of these papers.

Governor Pingree, of Michigan, was in attendance and at the close responded to a clamor from the pit for a speech. He merely observed that he was opposed to trusts, which he would tell those who attended in the evening. The Michigan governor, together with Governor Atkinson, of West Virginia, Governor Scofield, of Wisconsin, and Governor Stanley, of Kansas, upon the invitation of the chairman, took seats on the stage.

Samuel H. Greeley, of the Chicago Board of Trade, spoke on "The Protection of American Grain Markets from Railroad and Warehouse Monopolies." He was followed by J. C. Hanley, of St. Paul, delegate from the National Farmers' Alliance and Industrial Union.

The last speaker of the afternoon was Major Benjamin R. Tucker, of New York, editor of an anarchistic paper. He gave his view of trusts from the view point of the anarchist. At the close of his remarks he said: "Free access to the world of matter, abolishing land monopoly; free access to the world of mind, abolishing idea monopoly; free access to free and untaxed markets, abolishing tariff monopoly and money monopoly—secure these and all the rest shall be added unto you. For liberty is the remedy of every social evil; and to anarchy must the world look at last for any enduring guarantee of social order."

J. C. Hanley, of St. Paul, spoke of foreign markets and American shipping and the effect of these on agriculture.

"Trusts and combines," said he, "if conducted on a strict competitive system may be a blessing rather than a curse. But the operation of many of these gigantic monopolies as conducted at present is a menace to the existence and stability of our nation. I am convinced that legislation can not control this evil, without striking at the root of it, and that the Government should own and control all means of transportation and public utility."

In the course of his speech Aaron Jones, master of the National Grange, said:

"It occurs to me that the step in remedial legislation is to pass a well-considered anti-trust law by the Congress of the United States, defining the powers and limiting the privileges of these corporations. And supplement this law by enactments of the several State legislatures to apply to such phases as could not be reached by the federal law."

Vice-President Corless, of New York, presided at the evening session.

GOVERNOR PINGREE'S SPEECH.

Governor Pingree began by mildly criticizing the Civic Federation of Chicago, declaring that in all of the sixty-nine questions distributed by the federation broadcast over the country, as a means of gathering material for the use of the conference, only one question related in any way to the effect of trusts upon society. He deplored the fact that in all the discussion on business considerations—the almighty dollar—seemed to be uppermost.

"While it is a popular fallacy to deny the existence of social classes in this country," he said, "it is nevertheless indisputable that well-defined classes divide our society. The strength of the republic rests in the great middle class, the manufacturers, jobbers, middle men, commercial travelers, and business men generally, and it would be little short of calamity to encourage any industrial development that would affect unfavorably this important class. Close to this are the skilled mechanics and artisans."

It was the effect of the trusts upon these classes, Governor Pingree maintained, that should be first considered. As he viewed the situation the tendency of the trusts was to drive these men into the service of the great combinations, where their identity would be lost and where they would become mere cogs and little wheels in a great complicated machine. Ambition and perhaps inventive genius would be deadened and killed, independence would be lost, and a sort of industrial slavery would follow. Commercial feudalism, he said, is the logical outcome of the trust, the trust manager becoming the feudal baron.

Commercial advantages and disadvantages might be argued, he said, but it would not be honest to the people, either in this conference or in legislative assemblies, if the effect of the trust upon our national life and citizenship be not considered.

He believed it would be better to be forever poor, but independent and happy, as individuals, than to lay the foundations for industrial slavery and tyranny. Equality

of opportunity to all men would be better than the control of the world's trade.

"I favor complete and prompt annihilation of the trust," declared Governor Pingree, "with due regard for property rights, of course."

FOSTER DEFENDS TRUSTS.

Ex-Governor Foster, of Ohio, was the next speaker. He said:

"Denounce trusts as we may, they have come to stay. Why? Because the gigantic business operations of the present and future can not be carried on without them. Through the trust the enormous waste that is entailed upon business operations by competition is saved. The product and the service performed is cheapened. Labor will have the better opportunity to enhance wages and shorten the hours of toil, as is so signally illustrated in the railway service of the country."

"When the trusts shall have been properly safeguarded by law their securities will furnish a means of safe investment at a somewhat higher rate of interest than will be paid by Government, State or municipal bonds, thus affording an opportunity for investment by people of moderate means."

"A bureau of government or a board similar to the interstate commerce commission, should be established, to whom all trusts shall apply for license after being incorporated and to whom reports, as required of national banks, should be made. The terms of the license should provide against over-capitalization."

"All profits beyond 6 per cent should be taxed for the benefit of the Government. It seems to me that it is the duty of this conference to request Congress to submit amendments to the constitution, giving necessary power to control the trusts and to tax their profits."

When Governor Foster concluded, the following committee on resolutions was announced:

Ohio, I. F. Mack; Nebraska, E. Rosewater; Arizona, W. C. Campbell; Arkansas, B. J. Brown; Montana, H. H. Swain; New Jersey, Edward I. Keasler; North Dakota, William T. Perkins; Illinois, W. R. Jewell; Iowa, George E. Clarke; Wisconsin, Hon. John Nagle; Florida, Dr. John F. Forbes; National Grange Patrons of Husbandry, S. H. Ellis; Ohio, Illinois Commercial News Association, Samuel B. Bonnelly; American Federation of Labor, Samuel Gompers; National Alliance Theatrical Stage Employees Union, Lee M. Hart; United Garment Workers, Henry White; National Association of Manufacturers, Theodore C. Search; Kansas, John E. Hessin; Tennessee, C. E. Snodgrass; New Hampshire, Henry W. Blair; Minnesota, Hon. W. B. Douglass; National Grain Growers' Association, S. H. Greeley; National Farmers' Alliance and Industrial Union, John Hill, jr.; Missouri, E. C. Crow; Travelers' Protective Association of America, M. W. Phalen; New Mexico, C. J. Gavin; Knights of Labor, J. C. Schonfarber; National Single Tax League, Louis E. Post; Bricklayers' International Union, M. R. Grady; Association of Western Manufacturers, Walter Fieldhouse; Wyoming, J. Dana Adams; United States Agricultural Department, Washington, D. C., Prof. H. F. Newcomb; Delaware, Henry Alloway.

The next speaker was Attorney-General Davis, of Arkansas.

"If the withering blight of trusts are to overshadow our free American institutions," said Mr. Davis, "then, in my judgment, away with American liberty, American patriotism and the good of American people. The trust is but the ripened fruit of misused tariff legislation and the robbery of the people upon the silver question. It is not of the legislative department of this Government that I would complain, but of the judicial department. We have got to reconstruct our judiciary. If we ever have another civil war it will be brought about, in my judgment, by judge-made law. I tell you one of the greatest evils of the country is judge-made law, the judiciary department invading the department of the legislature."

Other representative men spoke, and we hope to present abstracts of their remarks next week.

A new paper published in Topeka has just made its appearance under the name, *Current Comment*. It is dedicated to the Topeka beau monde and women's clubs. The paper is tastefully gotten up and will be welcomed especially by lady readers. The editor and proprietor, Mrs. M. J. McCaslin, is a lady of experience in such work and is possessed of the type of energy which is the best guarantee of success. The printing is done by Mr. M. O. Frost, whose tasty execution of this class of work is well known.

The announcement of the college of agriculture of Cornell University shows that this great institution is awake to the important relation of science to the successful farming of the future. Tuition is free in the several courses in agriculture. This places the splendid facilities of the leading university of the country within the reach

of such as will take them. It is not unusual for graduates and professors from other institutions to take additional studies at Cornell as special preparation for advanced work. The announcement is sent free to all applicants.

Weeds in Stubble-fields.

The thousands of acres of grain stubble which will lie over unplowed awaiting the corn-planter in the spring will be neglected on some farms, and wherever it is neglected will produce weed seed enough to give a serious setback to the war on weeds even on an otherwise well-tilled farm. The number of seeds produced by some of the stubble weeds is enormous. Estimates based on partial counts gave for the cockle-bur 9,700 seeds or half that number of burs. Ragweed showed 23,100, while one of the pig-weeds (*Achida*) headed the list with 954,000 seeds. These estimates are much too large for the average individuals which grow crowded in the fields, yet they show their power to produce seed. A portion of the farm left thus each year will make almost fruitless the most determined effort to rid the farm of noxious weeds. It is advisable to mow such fields just before the weeds go to seed. Some follow the practice of burning the stubble in the winter. There are some objections to this latter method. First, there will be strips of stubble left unburned sufficient to seed down the entire field. Second, the ground is unprotected from the sweeping winds of winter and early spring. Third, the fertilizing element contained in the stalks will for the most part be blown off by the wind. On the other hand, if they be mowed the field will be free from the seed and the stalks and leaves will remain on the ground, forming a valuable mulch, and when rotted will return to the ground a considerable amount of plant-food.

J. M. WESTGATE.

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Farmers' Institutes.

The following farmers' institutes, in which professors from the Agricultural College will take part, have been announced:

September 30—Manhattan.

October 7—Olesburg.

October 6—Stockdale.

Fruit Farming Along the Frisco.

An attractive illustrated and thoroughly reliable 64-page booklet, devoted to fruit culture along the Frisco Line in Missouri, Arkansas, Kansas, Oklahoma, and Indian Territory, just issued. A copy will be sent free upon application to Bryan Snyder, G. P. A., Frisco Line, St. Louis, Mo.

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He who rules with a rod of iron should select a malleable one.

Kaw Valley Fair.

The Kaw Valley Fair Association held its annual fair at Bismarck Grove last week, making substantial progress over last year with the exception of beef breeds of cattle.

The exhibits in agricultural hall of farm and orchard products was in every way creditable. Lawrence has long been considered the horticultural center of the State and the public-spirited fruit-raisers and nurserymen did their part as practical exhibitors in having a representative and creditable display. Mr. Frank Thralls, superintendent of farm and garden products, had as magnificent a display of products as was ever produced in Kansas, and the exhibitors did their part in the artistic display. The same was true of the department of fruits, with E. F. Smith as superintendent and D. G. Watts as assistant, who, despite the adverse conditions, brought out a display of fruits that astonished and pleased all visitors. Mr. B. F. Smith himself contributed a most excellent display of some ten varieties of pears. Mr. C. H. Lovejoy, of Baldwin, the veteran horticulturist of the State, nearly 88 years of age, made a very large show of fruits, showing apples from trees planted forty years ago. He claims to have planted the first orchard and made the first fruit exhibit ever made in Kansas.

The show of poultry was very complete and 428 birds of the different varieties were shown. C. H. Rhodes, of Topeka, acted as expert judge, and scored the birds to the satisfaction of the exhibitors. Great interest was manifested in the poultry department by most of the fair's visitors.

The show of live stock was not as large as was anticipated by either visitors or exhibitors. Several breeders making entries failed to show up. The live stock department was manifestly weak by the absence of beef breeds of cattle. The show of a few Shorthorns from the Haskell Institute was the sole representative excepting the herd of Red Polled cattle by Geo. Groenmiller & Son, of Centropolis, who received all the awards for this class, including sweepstakes for beef breeds.

The dairy cattle were well represented by E. A. Smith and Wm. Brown & Sons, of Lawrence, who had out a full show of representative animals and divided honors about evenly. Mr. Smith's herd, however, taking the lead.

The swine exhibit was the chief live stock attraction, and Berkshires were shown by Manwaring Bros., of Lawrence, who had a full show and one quite creditable to the breed. Besides class premiums, they received sweepstakes for best boar any age or breed, on a boar of their own breeding. Duroc-Jersey swine were shown by A. L. Holcom, of Lawrence, who had nine head on exhibition. The Poland-Chinas led as to numbers and were exhibited by W. B. Van Horn & Son, R. H. Wheeler, J. H. Day, and P. D. Whitel, all of Lawrence. The awards were divided as follows: Aged boar, first and second, Van Horn & Son; yearling boar, first, Whitel; second, Van Horn; boar 6 months, first and second, Van Horn; boar under 6 months, first, Day; second, Van Horn; aged sow, first, Van Horn; sow 6 months and under 1 year, first, Van Horn; second, Wheeler; sow under 6 months, first, Van Horn; second, Wheeler; sow and litter, first, Whitel. Sweepstakes sow any age or breed went to the Poland-China sow of Van Horn & Son.

The strong feature of the fair was provided by the speed department, consisting of trotting, pacing, running and chariot races.

In agricultural hall the Lawrence seed houses made very creditable displays of field and garden seeds. The old Kansas Seed House, of F. Barteldes & Co., and Kumlir & Underwood, both deserve credit for helping out the general agricultural display, which altogether was the best of the kind seen in Kansas this year.

Jefferson County Fair.

The thirty-fifth annual fair of the Jefferson County Fair Association was held at Oskaloosa, and enjoyed a less marked degree of success than it should have, considering the resources of the county and the attention that has been given by the management. A wrong combination of wind, rain, and sunshine, with an undue proportion of the first, was largely responsible for whatever lack existed in both display and attendance.

The occasion was a combination one, the directors of the association having invited the Old Settlers' Association to hold its annual picnic with them and granted them the privileges of the grounds free of charge. The old settlers were accommodated with seats in the grove, and here an interesting program of speeches and music was had.

Of all the displays, the most creditable one, perhaps, was that in class I. F. H. Warswick, superintendent. The exhibit was full of good things, the greatest of which was a bunch of monster corn-stalks 18 feet and 6 inches high.

At the close of the fair a delegation of ex-Ohio men, of whom there are many in Jefferson County, secured the stalks and sent them back to their native State to pave the way, they said, for any crop stories they may want to tell when husking-time comes. The ears on the corn hung 11 feet above the ground.

W. H. Dick, of Rural Township, who produced the corn, said the seed came originally from Mexico, and was called Mammoth corn, but had been re-enforced in its tendency toward lofty growth by a two-year residence in Oklahoma. Mr. Dick had an exhibition another not well-known variety of maize, which he called Cornucopia, a native of Kentucky. The stalks of this were small, with abundant foliage and small to medium ears. One sample, of two stalks, bore thirteen nubbins, and another of eight stalks had twenty-seven better developed ears.

Two entries of peaches were worthy of note—not so much on the ground that they were examples of respectable Kansas peaches as that they illustrated the well-known fact that neither weather nor politics can keep Kansas out of the ring.

The upper floor of the agricultural building was occupied by the fancy-work department, in which a generous exhibit, liberally sprinkled with pillows, cushions, and fine check quilts and "comforters," from the Methodist society, and an elaborate show of dainty dollies and other pretty things with beautifully embroidered designs, from the Episcopal society, made the bulk of the display.

The live stock display was light. The president, A. P. Reardon, of McLouth, with

five pens of Poland-China hogs and one of Shropshire sheep, was the sole exhibitor in the two classes, while one lonesome yearling Hereford bull, bred by J. R. Smith, of Dunavant, but exhibited by its purchaser, Mr. Alexander, made up the show in cattle. The display of draft horses was correspondingly light, and but for a good display of poultry in the department superintended by W. D. Monroe, the representation of farm animals would have been light all around.

In justice to some wanted exhibitors it should be said that several of these had space and pens already engaged but were kept away by the heat. Of these the veteran hogman of Oskaloosa, James Mains, was one. Mr. Mains has just returned from a trip to the mountains for his health, and though his absence had kept his herd from being put in show condition he fully intended to make a display, "for the good of the order." Another newer breeder, who, however, would have furnished lively competition, is A. O. Northrup, of Boyle. Mr. Northrup has a small herd of excellent pigs and fully intended competing for honors, having engaged his pens, but was kept away by the heat.

The welcome rain Thursday night spoiled the track for racing, and that part of the program was dropped Friday, the management generously throwing open the gates for the day. The main feature of this day was a fine exhibit of roadster and saddle horses. Much credit is due Mr. Snyder, the secretary, as well as the other officers, for their efforts in keeping up so good an association and making so good a show, even under adverse circumstances. MORSE.

Jackson County Fair.

The ninth annual exhibition of the Jackson County Fair Association was held at Holton, September 12-15. The county of Jackson is noted for its rich soil and large returns therefrom, especially in the production of corn, one hill of which was exhibited by Daniel Miller that measured 17½ feet from roots to tips of tassels, and had to each stalk from 2 to 3 long, large, well-developed and maturing ears. No one present was able to reach the lower ears while the hill stood erect, as it was 9 feet to the first ears. Verily, the exhibit of corn at this fair was wonderful beyond words to describe, many, many ears, aye, hundreds of them, in great ricks like that of cordwood, and the stranger who happened to be present was so struck with amazement that he stood as if rooted to the floor—he could hardly believe his own eyes; but, behold, he had to acknowledge the corn, for there it was in all its glory.

And corn was not the only big product shown, for bushel after bushel of large, smooth potatoes demonstrated that Kansas is the home of "spuds" as well as of corn. Then, too, came another wonderful sight, that of pumpkins and squashes—and such another lot of pumpkin pies awaiting preparation for man's craving nature it would be exceedingly difficult to find. And watermelons! Did mother earth ever exert herself to produce greater ones than were seen at this fair? Here appeared melons weighing all the way from 48 to 79 pounds each. The combined weight of 10 of the largest was 771 pounds.

The fruit display was very good, all things considered. Our old friend and subscriber, Mr. J. F. Pomeroy, of Holton, displayed 20 varieties of apples, and the same are worthy of note, for the orchard from which they were taken has been in bearing twenty years. The tree from which the Willow Twigs came has been in bearing thirty-three years, and each specimen of fruit shown was as fine as has been seen at any fair held yet this season. For the past seventeen years the orchard (500 trees) has cashed Mr. Pomeroy an average of \$500 per year.

In the cattle department appeared 5 Shorthorns, property of J. A. Watkins, Whiting; 1 Jersey, property of H. F. Meyers, Holton; 2 Aberdeen-Angus, property of the Osborne Stock Farm, Netawaka; 7 Red Polled cattle, belonging to A. Bumgartner, Holton. The bull at the head of Mr. Bumgartner's herd is Jumbo 4465, sired by Davy's Pride 2679, and out of Princess Elfrida 5864. The 2 Aberdeen-Angus were in charge of Geo. M. McAdams. McAdams Brothers have charge of the 800-acre stock farm, which is the property of that great lover of "Doddies," Mr. W. O. Park, Atchison. In all there are 65 head of Aberdeen-Angus—10 thoroughbreds. The 2 were merely brought over to the fair to show the people their superior merit as beef-producing animals. The bull shown was Axtel of Estill 23688, sired by Heather Lad 2d 7965 and out of Abess of Burlington 3d 12171. A finer individual never trod the soil of Kansas, Mr. Park having refused \$1,000 for this noted son of Burlington fame. The cow, Apricot of Burlington 14479, sired by Black Knight 4751 and out of Moonshine 6432, is surely a model and as fine individually as was ever wrapped in a black cover.

The Shorthorns exhibited by J. A. Watkins, of Whiting, are worthy of notice, especially the young bull which received sweepstakes. Mr. Watkins' card will appear later in the "Breeder's Directory."

The swine exhibit consisted of Poland-Chinas, Berkshires, and Duroc-Jerseys. W. M. McAllister showed 11 Poland-Chinas, headed by Dewey U. S. 22463 S. by Mc's Black U. S. 14213 and out of Silver Tip (33234). He sold boars to the following: E. D. Vennberger, Havensville; Geo. Loughmiller, Soldier; A. A. Gordon & Son, Holton; Senner Bros., Havensville.

In the poultry division, Mr. G. Eaden, of Circleville, exhibited the greatest variety, and, of course, got most of the premiums. HORACE.

Clay County Fair.

The eleventh annual fair of the Clay County Fair Association, held at Clay Center, Kans., September 11 to 14, inclusive, was not quite the success that it should have been. The farmers did not turn out in the numbers that they should for such a large and prosperous county as Clay. The grounds are nicely located about one-half mile southeast of Clay Center, with plenty of shade-trees on the ground. The horticultural hall was well filled with things which usually go to make up an exhibit for such a building. Special mention must be made of the large and excellent exhibit of corn, which filled up one long table, and attracted a great deal of attention. The display of poultry was one of the finest ever seen in the county. The horse and cattle departments were poorly represented so far as thoroughbred stock was concerned. The only exhibitor in the sheep

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class was R. Fowles, of Wakefield, Kans., who had some very fine Shropshire Downs. The swine department was better represented, though by only two exhibitors, Ben. Small and H. W. Griffith, both of Clay Center. They exhibited Poland-Chinas, each one having a large herd. They divided the premiums.

Some of the special attractions were very good. There was a cake-walk, two ball games, and a decorated carriage and bicycle parade.

If more inducements could be offered to the farmer to exhibit his products and live stock a greater interest would be taken by them. L. M. N.

Coffey County Fair.

The Coffey County Fair Association held its nineteenth annual fair on the grounds at Burlington, September 11-15. The secretary, Mr. J. E. Woodford, had advertised the fair well and it had a good supply of attractions and stands, which were all well patronized.

It is the custom of this association to exclude "the pool" which usually accompanies horse-racing.

The gate to the grounds had been decorated with large ears and long stalks of corn, by some of the county farmers, who thus showed their interest in the fair. As you enter the grounds from the east, the track is to the right, the grand-stand being just a few rods from the gate, while to the left, back from the main roadway across the grounds, there stands three exhibit halls. The first is the floral hall, filled with plants and needle-work and other fancy work. This was a fine exhibit and the best of its kind of any of the exhibits of the southern Kansas fairs. The second hall was for the agricultural display, and was well filled with grain, seeds, and garden products of every description, also fresh and canned fruit, jellies, cake and bread. There were 220 plates of fresh fruit, consisting of apples, pears, peaches, plums, grapes, quinces, and persimmons.

Billy Smith received first on general display of fruit, having 36 plates of fine apples and pears.

G. W. Keever entered 26 plates of fruit, which received the second award in the general display of fruit.

Abner Ball, the superintendent of this department, had the plates of fruit well arranged around the sides of the west wing of the hall.

Besides the extra large numbers of entries of corn on the shelves of the hall, there were 6 wagon-loads of corn on the outside, 3 being white corn, 2 yellow, and 1 red.

The third hall was for the poultry exhibit. Almost every breed of chickens was entered, besides the ducks, geese, turkeys, peafowls and guineas.

Mrs. J. L. Taylor, of Burlington, won the following premiums: First on trio of peafowls; first on trio of Toulouse geese; first on trio of guineas (white); first on trio of guineas (pearl); first on pen of white guineas; first on pen of Buff Cochins; first on trio of Buff Cochins; first on pair of slate turkeys; first on pair of White Holland turkeys (old), and second on pair White Holland turkeys (young).

John Coburn, of Hartford, Lyon County, won first on the following: Trio of Golden Wyandottes, trio of Silver-laced Wyandottes, trio of White Wyandottes, S. C. B. Leghorns, pen of S. C. B. Leghorns, trio R. C. B. Leghorns, trio of Black Langshans, and pen of Buff Plymouth Rocks. He also won second on trio of Buff Plymouth Rocks, and trio of Light Brahmas.

Geo. Throckmorton received second on B. P. Rocks, Pekin ducks, Bronze turkeys.

Mrs. E. E. Hill won first on trio of B. P. Rocks and first on breeding pen of B. P. Rocks.

J. H. Grimes won first on young White Holland turkeys, second on old White Holland turkeys, first on pen of Black Langshans, and second on trio of Black Langshans.

L. E. A. Clark won first on trio of Buff Plymouth Rocks. He is the man who brought the best load of white corn.

There were some good specimens of Poland-China hogs, though not a large number, entered at the fair. H. Davison & Son, of Waverly, showed 8 head, Success I know, their herd boar, receiving first in the 1 year and over class. They also won first on sow under 1 year and second on herd.

W. T. Palmer, of Burlington, won first on sow 1 year and over, and first on sow and 5 pigs, second on sow 6 months and under 1 year, second on sow 6 months and under 1 year, second on boar pig, second on sow pig, and first on herd.

Chas. H. Turner, of Westphalia, received first on boar 6 months and under 1 year, and first on pen of pigs.

J. E. Woodford, of Burlington, received first on boar pig and sow pig, second on boar 1 year, sow 1 year, and pen of pigs.

Geo. Hartpence was the only man who entered grades and crosses, receiving first on all entered, as follows: Sow and pigs, sow 6 months, yearling sow, and boar pig.

Dan Sullivan, of Burlington, made 4 entries of grade Shorthorns and received 4 first premiums.

Dr. Manson received first on his Hereford bull.

Geo. Hartpence was awarded second on his Jersey bull. GRAVES.

TO SAVE DOCTORS' BILLS
Use "Garland" Stoves and Ranges.

Miami County Fair.

A good year and a good week, with a county and a fair association to match, are some of the elements which made the Miami County fair, held last week at Paola, a most successful exposition. Every exhibitor who travels the eastern Kansas circuit knows and appreciates the excellent grounds and liberal patronage found at Paola, and to the horsemen the well-cared-for half-mile track and lively interest in the races are no less an attraction.

The Miami County Fair Association is one of a not very large proportion of similar organizations which has stood the test of dull times and inevitable mismanagement, and the explanation for this fact is found in the perseverance of the officers, well represented by W. J. Carpenter, secretary, and in the resources and public spirit of the county. The treatment which the citizens accord this representative organization is a hearty response to the following paragraph, taken from the advertising announcement by the association:

"Bring what is best on earth to you, even your wife and family, or horses, cattle, hogs, poultry, or produce. If you are so unfortunate as to not have any of these, then bring your best girl and biggest pocketbook."

Department A—cattle—of which G. L. Whittaker was superintendent, was a strong one, including four full herds, representing three different breeds. Honors were distributed pretty evenly, although Nevins Brothers' herd of elegant Shorthorns, from Chiles, Kans., was the one most admired. This firm took everything in class, against very light opposition, first in a herd ring of all breeds, and scored a clear victory in a six-entry sweepstakes contest on bull. In cow sweepstakes, however, the Shorthorn had to give way to a Hereford cow belonging to T. H. McWilliams, of Paola, who divided Hereford honors at a slight loss with Henry Ackley, of Wellsville. A neat bunch of Red Polls, the property of F. A. Shoemaker, from Linn County (the home of a half dozen herds of the dual-purpose breed) had matters all their own way, but were voted by all as worthy of their winnings.

In hogs, the showing was even stronger, the popular Poland-Chinas being represented by five local breeders—C. P. Shelton, Osawatimie; F. B. Linn & Son, Lenexa; J. R. Killough & Sons, Ottawa; P. L. Ware & Son, Paola, and Kirkpatrick, of Ottawa. The herd of Linn & Son carried away the better part of class ribbons, but, on a change of committee, Ware & Son's showy young boar, W. S. Chief Again, came out best on sweepstakes, while J. R. Killough & Sons' grand boar, J. R.'s Tecumseh, was an almost equally popular candidate with the onlookers. The herds of A. E. Staley & Son and I. H. McWilliams, Ottawa and Paola, respectively, made a fair showing for Chester Whites, and one lonesome boar, property of J. H. Holman, Paola, held up the standard of the Berkshire breed.

A. E. Staley & Son, led in pleasing poultry exhibit with a straight list of firsts on Light Brahmas, Buff Cochins, Pekin ducks and white guineas, with seconds on the first two named. Other exhibitors were local, and in Plymouth Rocks the contest was close.

In farm products, a lively rivalry was developed by the offer of special township prizes. Two townships, East Valley and Paola, made especially good showings and won in the order named, a remarkable diversity of grains, fruits, grasses, etc., being included in the exhibits. The exhibit from East Valley was largely made up with products from the 80-acre farm of Wm. Dogeford, a German, and contained almost anything in the agricultural category, from chestnuts and Russian sunflowers to cotton and peanuts. The household department, under Mrs. J. Masters, was also a creditable one, as were also the educational and fine arts departments and machinery exhibits.

The draft horse class was light, but other classes in this department, of which J. J. Williamson was superintendent, were fairly full and many fine specimens of all-purpose and roadster horses by local exhibitors entered the prize ring. One of the most notable entries was that of a team of 1,400-pound bay mules, with the action of a team of coaches, which a local buyer drove into the ring, to the consternation of all competitors. Races were unusually satisfactory, genuine contests of speed being fully as frequent as "fixed" goes, and two records—the track record for pacing and the State record for half-mile running—were broken.

One feature of the management—and which might be written with an "other associations please copy" was the scheme by which all candidates for nomination on county tickets were put to the test. The premium list contained the signed promise of each candidate to put up, in case of his success, \$15 to be applied to special premiums made up from the fund thus insured.

It takes more religion to hold a man level in a horse trade than it does to make him shout at a camp-meeting.

Put your stomach, liver and blood in healthy condition and you can defy disease. Prickly Ash Bitters is a successful system regulator.

Horticulture.

KANSAS EXPERIENCE IN ORCHARDING.

From "The Kansas Apple."

John Reed, Oak Hill, Clay County: I have resided in the State twenty years; have an apple orchard of 100 trees 6 years old. For market I prefer Ben Davis and Winesap; and for family orchard add Jonathan and a few early varieties. I prefer low land with a porous subsoil, and a northeast slope. I prefer 2-year-old trees with branches one foot from the ground. When setting I dig big holes and loosen up the subsoil about a foot. I find this gives the best satisfaction. I have always cultivated my orchard, and intend to do so three or four years longer; I plow twice a year—in spring and the middle of June; I keep the ground well stirred. I planted corn the first three years, listed it in, but would not recommend it, as the trees will do better if the land is plowed. Windbreaks are essential on the south and west sides of the orchard; would make them of two rows of cottonwood trees planted zigzag with one another. For rabbits I wrap with corn-stalks. I dig borers out and wash the trees with lye water twice a year for the first three years; it keeps the tree nice and clean and the borers out. I prune my trees, by cutting out the limbs that cross, and to keep the trees from leaning to the north, and it pays. I fertilize my orchard with decayed corn-cobs. I think it beneficial, and would advise it on all soils, as I think too much straw mulching is an injury to the trees when they get old. I do not pasture my orchard; it does not pay. My trees were troubled with canker-worms last spring. I do not spray. My best market is in the neighborhood. Prices last fall were 50 to 60 cents per bushel.

George R. Barnes, Chapman, Dickinson County: I have lived in Kansas twenty-seven years; have an apple orchard of 6 acres old enough to be at their best. For market I prefer Ben Davis, Missouri Pippin, Jonathan, and Winesap, and for family use Early Harvest, Red June, Maiden's Blush, and Missouri Pippin. I prefer a low bottom with a black loam, and a north slope. I prefer 2-year-old, well-balanced trees, set in holes large enough to receive them, 24 by 24 feet. I cultivate my young orchard to corn and potatoes, using a disk harrow, and cease cropping when they begin to bear. I plant nothing in a bearing orchard. Windbreaks would be beneficial on the south to protect the orchard from the hot south winds. I would make them of walnut-trees, because they sap the ground the least. To protect them from the borers, I leave the branches low down, and when we see any sawdust I dig the borer out with a knife. I prune very little with knife and saw to balance the trees. I do not thin the fruit on the trees. Some say if you expect to get a load of apples from a tree you must give it a load of manure every time it bears, and I think this is right, but don't put it too close to the tree. I pasture my orchard with nothing but poultry; it is not advisable; it makes the ground too hard. Codling-moth troubles my apples very much. I do not spray. I sell apples in the orchard; peddle the best ones; make cider and vinegar of the culls. Don't dry any for market—just enough for family use. Prices have been from 40 to 75 cents per bushel.

A. M. Engle, Moonlight, Dickinson County: I have lived in Kansas nineteen years. Have an orchard of 600 apple-trees 10 to 18 years old. For commercial orchard I prefer Ben Davis, Rawle's Janet, Missouri Pippin, and Winesap. I prefer bottom or low land with a dark loam, and a north or northeast aspect. I prefer stout, low-headed, 2-year-old trees, planted 16 or 18 feet east and west and 30 or 32 feet north and south. I think an orchard ought to have as much cultivation as a corn-field. I grow early corn in my young orchard, using an Acme and cutaway harrow, and cultivate as for corn. I cease cropping when fairly bearing. Plant nothing in a bearing orchard unless fertilizing, but keep cultivating. Windbreaks are essential; would make them of evergreens, box-elder, Osage orange, maples, cottonwood, etc. For rabbits I rub the trees with axle grease, or tar and fish-oil, or old lard, mixed; apply with a cloth. For borers I wash with lye or strong soap-suds. I prune my trees severely when planting, and watch them for several years, and cut out all the branches that rub or crowd, and cut out buds so that the tree will not have too many limbs for foundation; I think it pays. I thin the fruit while on the trees; begin early when the trees are full, and continue all through the season, whenever I see imperfect fruit; think it pays big. My trees are mixed plantings. I fertilize my orchard with well-rotted stable litter and wood ashes; I would especially advise the use of wood ashes. I pasture my orchard very little; would put hogs in if the limbs were not too low and full of apples; I think it

would pay. My trees are troubled with flathead borers and canker-worm, and my apples with codling-moth. I intend spraying this year with Paris green and London purple for the worms, and Bordeaux mixture for blight and fungous diseases, as soon as the blossoms fall. In picking I use foot ladders and one-half bushel baskets, unless the variety is very hard; then I use sacks. Sort into three classes. Pack in barrels shaken and pressed down, then headed, and marked with name of variety, and haul to shipping point on wagon. Sell some apples in the orchard; let the grocers have the best to sell on commission; sell second and third grades the best way I can; make cider of the culls. My best market is at Abilene; never tried distant markets. Dry only for home use. Am successful in storing apples in barrels and tight boxes, in a cave; find Winesaps and Rawle's Janet keep well until June. Put my apples in the cave when the weather is cold, and keep it open cold nights, but am careful not to let it freeze. Think it best to repack stored apples when kept late. If they are well managed you will not lose 5 per cent, probably not 2 per cent. Do not irrigate, but would if I had water facilities. Prices last fall were from 40 to 50 cents per bushel in the orchard, but the apples I kept over netted me \$1.25 to \$1.35 per bushel. I employ men and women; think women best and cheapest for sorting. Pay 50, 60, and 75 cents per day. I do not consider myself a successful horticulturist, but believe, if I had known as much about the nature and necessity of the orchard when I came to Kansas nineteen years ago as I do now, I could have made a success of it, even here in central Kansas. I would especially say that I do not believe there can be success with an orchard exposed on upland. There might possibly be some success as a family orchard, with good windbreak planted around it, especially on the south side, but I would not take 10, 20, or 30 acres of exposed upland, with apple-trees enough to plant it, as a gift, if I must plant and tend it, for the produce of it for ten or more years. I do not know of a single such orchard that is worth having. I would advise selecting low ground, sloping north and east, with an elevation or good timber protection on the south and west; land inclining to bottom or good "draw." My belief is that, with a good selection of varieties, and the proper kind of land and location, apple-raising could be made quite profitable here. Keeping the apples in cellars is a mistake; a good cave kept as cold as possible without freezing is far better. I think apples should be placed on the north side of some shed or building before being put in the cave, and kept cool, and put into cave before freezing. Last fall I sold my choice apples at the orchard at from 40 to 50 cents per bushel. I kept some in barrels in the cave. They were in good demand. About holidays I got \$1.25, and since then \$1.35. I had a contract with a grocer to sell them for 15 per cent, and they netted me as above. I have some in very fine condition in my cave yet [April 27]. I still open the cave on cold nights.

Thomas E. Taylor, Pearl, Dickinson County: I have lived in the State seventeen years. Have an apple orchard of 70 trees, 50 of which are 12 years old, and the other 20 are 18 years old. I prefer Maiden's Blush, Missouri Pippin, and Winesap. Have tried and discarded Lowell, Jonathan, Grimes' Golden Pippin, and Willow Twig, on account of blight. I prefer bottom land having sandy soil and a clay subsoil, with a north slope. I prefer 2-year-old healthy trees, set in ground which has been plowed very deep. I water the tree well when I plant it. I have cultivated as long as it was possible to get between the trees. I generally use common plow and disk harrow during the summer, where I have no crop in. I grow corn, Kaffir-corn and potatoes in a young orchard. Cease cropping my orchard when 12 years old. I mow the weeds with a machine. I think windbreaks a benefit; would make them of box-elder, ash, or red cedar. I use a pruning-knife on my trees every year, leaving the branches quite thick on the south side. I think it pays. Never have thinned the fruit on the trees. I fertilize my orchard every two or three years with stable litter. I think it beneficial. I do not pasture my orchard; it is not advisable, does not pay. Do not spray. Prices at picking time are 40 to 50 cents per bushel.

Western Freestone Plum.

Editor Kansas Farmer:—I saw in the Farmer, some weeks ago, an article from Mr. Hall, on the western native plum. I am growing a kind here, which originally came from the Medicine River, which is very much of an improvement on the common sand-hill plum. We call it the Western Freestone. It is about the size of the Wild Goose but is more oblong. The skin is tough. The plum is of good flavor, has small pit, and is a great bearer. Freestone trees grow ten or more feet high

The Secret of a Girl's Beauty

Hon. J. H. FLETCHER, formerly Governor of South Dakota, but now a resident of Salem, Ore., says:

"For over two years my daughter had been declining from a strong, healthy, rosy-cheeked girl to a pale, weak and helpless invalid. She was afflicted with terrible headaches, and gradually grew weaker, and more languid, apparently without cause. I tried several doctors, but all without avail. Finally, to please a friend, I bought a box of Dr. Williams' Pink Pills for Pale People, and to our surprise, before it was used up her headaches ceased, the color began to return to her cheeks and lips and her strength began to assert itself. I bought five boxes more, and by the time she had finished them she was completely restored, and to-day she is a robust rosy, healthy girl instead of a pale, tired and sickly one."

—From the Oregon Independent, Salem, Ore.

Dr. Williams' Pink Pills for Pale People contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are an unfailing specific for such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after-effects of the grip, palpitation of the heart, pale and sallow complexions, and all forms of weakness either in male or female.

Dr. Williams' Pink Pills for Pale People are never sold by the dozen or hundred, but always in packages. At all druggists, or direct from the Dr. Williams Medicine Company, Schenectady, N. Y., 50 cents per box, 6 boxes \$2.50.

and the plums ripen in September and October. They bloom a little later than the Wild Goose and are not so apt to get frosted.
D. H. WELCH.
Macksville, Kans.

Forest Trees.

Editor Kansas Farmer:—Can you or some of the Kansas Farmer readers tell me what kind of forest trees will grow best in a low piece of land, in which annual crops usually drown out and yet the water does not stand a great while?

Also, I want something to break the wind on a high sandy rise. I thought mulberry trees probably would be the best on the sand, but would like to hear from some one who has had experience. Of course, I would like trees that will be of value as timber.
G. O. L.
Stafford, Kans.

How's This?

We offer One Hundred Dollars Reward for any case of Catarrh that can not be cured by Hall's Catarrh Cure.

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Walding, Kinnan & Marvin, Wholesale Druggists, Toledo, O. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price, 75c. per bottle. Sold by all Druggists. Testimonials free.
Hall's Family Pills are the best.

New Through Pullman Service Between Denver and St. Louis.

On June 18 the Great Rock Island Route inaugurated through Pullman Sleepers between Denver and St. Louis via Kansas City and the Missouri Pacific R'y. Eastbound car leaves Denver daily at 2:35 p. m. on the "Colorado Flyer," arriving in St. Louis 6:15 p. m. the next day. Westbound car leaves Kansas City daily on "Colorado Flyer," at 6:30 p. m., arriving in Denver 11 a. m. next day. This is the fastest through car line between Denver and St. Louis. The cars are broad vestibuled, of the latest pattern and most luxurious type. Advantages in patronizing this service will be: The quickest time, no change of cars, absolute comfort. The best Dining Car Service in the world. For full information see your agent or write
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Descriptive and Price List free. Currants, Gooseberries and other Small Fruit Plants. Extra quality. Warranted true. T. S. HUBBARD CO., FREDONIA, N. Y.

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In the Dairy.

Conducted by D. H. Otis, Assistant in Dairying, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

CHEAPER PRODUCTION OF MILK AND BUTTER.

By C. Marker, Dairy Superintendent, Calgary, Alberta, in the annual report of the Cheese and Butter Association of Ontario, for 1898.

In dealing with this subject I fully recognize that it is a very comprehensive one, and that a great many factors should be considered individually, such as proper care and feeding of the dairy stock, etc., in endeavoring to solve a problem which has not, in a great many cases, met with the attention which it deserves from those who are directly interested, namely, the dairy farmers.

Outside of the initial place of milk production—the farm—great strides have been made during the last few years toward reducing the cost of manufacture and increasing the yield of butter, such as:

1. The invention and subsequent improvement of the Centrifugal cream separator, which now enables the skilled dairyman to recover 97 per cent to 98 per cent of the total quantity of butter fat in the milk, as against the good old way of raising the cream by gravity in the deep-set pail or in the shallow pan, only recovering from 50 per cent to 90 per cent of the butter fat, according to the local condition under which the work has to be done. In defence of the latter, or gravity system, we sometimes meet with the statement that the cream separator "robs the calves" of the butter fat which they would otherwise get in the skim-milk. Quite true; yet it is generally conceded by successful dairymen, that butter fat is not absolutely essential to the growth and development of young animals, and that we can buy and add to the separator skim-milk such feed stuffs as oil-cake, meal, flax-seed, etc., which will answer the same purpose as the ten times more valuable butter fat, when used in the right proportion with the skim-milk.

2. The manufacture of butter in creameries, leaving in the hands of one or more skilled operators the work of making a uniformly fine quality of butter which can command the highest price throughout the year, as against the more or less primitive way of home churning by the individual milk-producer, with the result that the quality of butter made by each would vary from time to time, owing, generally, to lack of proper facilities, pressure of other work, and innumerable other causes.

3. The introduction of the Babcock milk tester, which enables the careful butter-maker to do better work with the cream separator and churn by testing the skim-milk and buttermilk, and using it as a guide in making the best use of the facilities and conditions affecting the work which he has at his command.

So much for reducing cost of manufacture. Now, what has been done, or is being done, toward cheapening the cost of producing milk on the farms? Let each dairyman answer for himself.

Assuming that the dairy farmers of Ontario are following up dairying as a business, that is, for profit, how many of them know the productive capacity of each individual cow in their herds, even approximately, and how much it costs to produce a pound of butter from each cow? This is a question that should be considered by every dairyman.

The facilities which the creameries in the various districts and the Babcock tester afford the farmers toward solving this problem for themselves should not be underestimated, and this is the phase of the "cheaper production of milk and butter" to which I wish to refer for a moment or two.

Though I have not at hand any accurate

statistics showing the average yield of butter per cow each year in Ontario I venture to say that there is yet a great deal of room for improvement, and that it is quite possible to increase the yield of the dairy herds through a course of good care, comfortable stabling, judicious feeding, selection and breeding.

This process may be comparatively slow, but it is sure. Not long ago I visited a section in Canada where dairying is carried on throughout the whole year; the average output of a certain creamery there was 150 pounds of butter per cow for the year, while the yield from one of the best herds averaged 250 pounds per cow. The following table, which I had occasion to compile at the time, shows the variation of yield of the different herds of 41 patrons who furnished milk to the creamery in question:

9 received \$15.00 to \$20.00 per cow for 12 months.
18 received 20.00 to 25.00 per cow for 12 months.
7 received 25.00 to 30.00 per cow for 12 months.
5 received 30.00 to 35.00 per cow for 12 months.
1 received 41.00 per cow for 12 months.
1 received 43.50 per cow for 12 months.

These are practical figures and speak for themselves. The intelligent use of the scales and tester would work wonders in some of these herds in the way of "showing up" the non-paying individuals.

How can we ascertain the value of dairy stock in a more simple and reliable manner than by careful milking, regular systematic weighing and testing of the milk from the individual cows and a carefully kept record of the results? Each point is equally essential to attaining correct information on this important question.

Milking.—These dairymen who decide to adopt this plan of procedure will not forget that milking should be done as nearly as possible at the same hour morning and evening; at any rate, there should be a uniform interval between the morning and evening milking, from one day to another. It goes without saying that the milking should be thoroughly and carefully done in order to get correct samples for testing, bearing in mind that the first portion of the milk, when drawn, may test as low as 2 per cent of butter fat while the latter part may go as high as 7 per cent to 8 per cent of butter fat; therefore, by thorough milking we not only obtain a better quality but also a larger quantity of milk, as the secretion of milk is stimulated by quick and thorough milking.

Weighing.—The milk from each cow, under test, should be weighed, not measured, as soon as it has been drawn morning and evening, at least once a week and on a certain day of each week. The correct weight in pounds and ounces gives more definite information than the very comprehensive terms sometimes used as "A patent pail full twice a day," "A big pail half full at each milking," etc., as the case may be. The weights should be recorded on a slate, blackboard or sheet of paper used for that purpose, opposite the name or number of each cow.

Sampling the Milk.—The samples may be kept in tightly corked bottles or jars, labeled with the number or name of each cow, under test, written plainly; also "morning milk" or "evening milk" as the case may be, otherwise the samples are likely to get mixed.

A small closed cupboard nailed to the wall in the stable or milking-shed would be the right thing for holding the sample bottles or jars.

As soon as the milk from each cow has been weighed a sample taken with a small tin dipper is put into each respective bottle. A small pinch of powdered "bicromate of potash" is required to preserve the samples from souring until the test is made; this is generally kept in stock at all creameries or cheese factories for use in composite testing of milk sent in by the patrons.

The Testing.—Of the samples can be done by any one who is familiar with the working of the Babcock tester; the local creameries and cheese factories can do a great deal toward encouraging the work by testing the samples for their patrons and others who take it up. The butter-makers and cheese-makers will, no doubt, be only too glad to give any information and assistance in their power, to assist a movement which, if carried out, can not fail to do a great deal of good all around. When a weekly sample is taken, the composite test may be made once a month, and the yield of butter fat for the month compounded and recorded.

A Careful Record.—Should be kept of the yield and test of milk from each cow throughout the season; in this way only will it be possible to study the individuality of each cow as a producer. An occasional test or two shows the quality of milk given at that time only, and is of very little practical value as a guide, nor is the test without the weights or vice versa a reliable indication.

The Scales and Tester.—Should go together, hand in hand, throughout the season, and the results will point out among other things the cows which can be kept

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SEPTEMBER FIRST marks the introduction of the 1900 or improved 20TH CENTURY "Baby" or "Dairy" sizes of De Laval Cream Separators. These improvements denote another great advance in cream separator construction and efficiency, materially increase capacities, and render the new "Alpha" disc machines simply unapproachable by anything else in the shape of a cream separator, either in efficiency, mechanical construction or practical cheapness. Overwhelming as has been the conceded superiority of the De Laval machines heretofore their standard is now raised still higher and they are more than ever placed in a class by themselves as regards all possible competition. No effort nor expense has been spared to make the new 20TH CENTURY De Laval machines literally perfect separators—machines for everybody, that nobody can criticise and nobody ask for anything better or cheaper.

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PHILADELPHIA.

for profit as well as those which are a constant source of loss to their keeper.

The matter of selection of cows for breeding purposes will also be rendered comparatively easy. In fact, a thorough knowledge of individuality will give the thoughtful, observing dairyman a large scope for improving his herd from time to time until each animal becomes a source of profit to him. As an eminent writer says: "The interest and pleasure of building up a herd from a few well-selected animals is very great, and if the breeder will form an ideal picture in his mind's eye of a perfect animal and follow it up with patience in spite of disappointments and inevitable drawbacks, though he will not be likely to attain perfection, he will, in due time, be certain to possess a valuable herd profitable to himself."

There is one consideration, however, of which we should not lose sight, namely, that unless the milch cow is well fed and cared for right along, and, as it were, given every opportunity to do good work, not even such otherwise infallible evidence as the scales and the Babcock tester can indicate her capacity for milk and butter production. They simply show the returns she makes for the care and attention she is receiving at the hands of her keeper.

The Low Test.

At nearly every institute attended last week by Professor Cottrell and myself the question was asked, "What is the reason our milk tests 2.6 per cent one month and the next month, under exactly (?) the same conditions, it tests 4 per cent or more?"

There are a great many things that affect the test so that we can not point to any one thing as doing it. In the first place, the conditions are never "exactly" the same; the pasture may be better one month than another, the weather may be cooler or warmer, perhaps you encourage the cow less with the milk stool, or perhaps the boy who brings them in does not get them so much excited. All these things, and many more, influence the per cent of butter

fat. Kindness is sure to be rewarded by an increase in both the per cent of butter fat and also in the milk yield; whenever you abuse the cow either by a sharp word, the milk stool, or by running her, you are taking money out of your pocket by decreasing the per cent of butter fat and also

Throw Away Those Pans..



You are losing time, labor and DOLLARS every week that a "SHELDON" will save. Adds quantity and quality to your dairy product. None equals the "Sheldon" in simplicity, workmanship and finish. Write at once for our special offer to first buyers and agents, it will surprise you. DON'T WAIT. Address, SHELDON CREAM SEPARATOR CO., A 34 Clark St., CHICAGO.

Make More Butter.

Increase each cow's profits at least \$10 a year. Others are doing it who use

The Kneeland Omega Cream Separator.

Easiest running, least cost to buy and for repairs, simple, durable, perfect. Sold under a positive guarantee to be as claimed or your money back. That's fair enough. Agents wanted where we have none. Free book, "Good Butter, and How to Make It," to everyone who writes for it. Address, The Kneeland Crystal Creamery Co., Concord St., Lansing, Mich.

Mr. Dairyman:

Are you getting all the cream from your milk by your present method? We should like to put an



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in your dairy and compare results. If you do not make enough extra butter to pay for it in 6 months, we will not ask you to keep it.

The Empire is as much in advance of the old style separators as the latter are of the setting system.

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That you are losing cream and doing work That might be saved if you were using the

IMPROVED U. S. SEPARATOR

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the yield of milk. Whenever the cow suffers for lack of food, water, or proper care there is a decrease in the amount received from her.

There are other reasons why your test may be lower one month than another. When the milk is warm it churns very easily so that when you send your milk to the station in cans only half full they will be partially churned when they get there. There is no way of getting a fair sample of such milk, for the butter fat that is churned is lost, both to the patron and to the creameryman. If you have a can and a half to send, fill one can full so that you will be sure to have that much that will not be churned. Keep the milk as cool as possible as it does not churn so readily at a low temperature.

If you do not want a low test do not take the first milk yourself and let the calf have the last. The first milk often tests as low as one-half of one per cent, while the last will test 10 per cent to 12 per cent. Don't skim all your milk before you send it to the station and then expect it to test 6 per cent.

To the creameryman I would say, keep all samples of milk from churning if possible; good tests can never be obtained from a churned sample without the use of ether and this is too laborious a process for you. It is claimed by some that simply heating the milk to a temperature that will melt the butter fat will answer, but my work in this line convinces me that satisfactory results can never be obtained in this manner.

J. A. CONOVER.

Zacona's Record for August.

The readers of the Farmer will remember that at the beginning of August we made a statement of what we wanted Zacona to make for the month; our estimate was 1,150 pounds of milk. She gave for the month 1,124.1 pounds of milk, which tested 3.4 per cent, making 38.22 pounds of butter fat. We were obliged to change milkers during the month and she fell off on that account; and no doubt the hot weather had something to do with the low yield.

J. A. C.

Some Notes on Testing.

Last winter some testing was done to see the effect of heat and cold on the color and reading of the butter fat. It was found that if the milk was at a low temperature when the acid was added the butter fat was of a lighter color and as a rule the reading was a little lower. Where the temperature of the milk ranged from 35° to 60° the butter fat was nearly white, and the reading was from .1 to .2 lower than the reading of the same milk tested at a higher temperature.

Quite often there is trouble with white streaks of sediment under the column of butter fat. This is usually caused by using a weak acid, or not being careful to measure out the correct amount. It may be caused by not shaking the bottles sufficiently before they are put into the machine. If the acid is weak use a little more of it. Shake the bottles with a rotary motion until all the curd is dissolved and the liquid dark in color.

If the acid is too strong the butter fat will be darker in color and have a dark or black streak under it. Acid of the proper strength has a specific gravity between 1.82 and 1.83.

J. A. C.

Succulence.

From Bulletin 81. Kansas Experiment Station.

The June pasture which forces every cow to her best yield furnishes a succulent ration, and for best results from the cows through the winter, succulent feed must be given. On June pasture alone a cow will give a heavy yield. Cut the grass, dry it carefully, so that water only is lost, give this dried grass to the cow as her only feed, and she will soon go dry. The grass has lost its succulence. We know the value of fruit and vegetables to human animals in winter, and during this time succulent food is equally valuable to the cow. It may be secured either from ensilage or roots. When the first expense can be afforded, the silo is the cheapest and best way of providing green feed for the winter, and corn the best crop for silage. Where the dairyman has no silo, mangel-wurzels or sugar-beets should be raised to furnish succulent winter feed.

Succulent feeds in winter have two advantages; they are appetizing, which makes the cow enjoy her feed, and they keep the system in a healthy condition and the bowels loose. The nearer we can feed our cow in winter to secure the natural loose condition of the droppings as they are from June pasture, the more she can eat, and the more she will be able to give in return for each pound of feed eaten. When a cow is constipated there is a feverish condition of the body, a smaller per cent of the feed is digested and converted into milk and the yield is lowered.

If the dairyman has neither ensilage nor roots, he should combine his feeds to

cure as nearly as possible the right condition of the bowels. This is hard to do without succulent feeds. In the list of feeds following, the general effect which each has in this respect is given:

LOOSENING FEEDS.	CONSTIPATING FEEDS.
Alfalfa.	Corn fodder.
Sorghum hay.	Corn-stalks.
Ensilage.	Kaffir-corn fodder.
Roots.	Prairie-hay.
Bran.	Timothy-hay.
Soy-bean meal.	Kaffir-corn grain.
Linseed-meal.	Corn (in light feeds).
Gluten-meal.	Cottonseed-meal.

Rations can be made from these constipating feed alone which will contain the food elements (protein, carbohydrates and fat) in the right proportions, and such rations are frequently used with results of low milk yields, although the cows have apparently an abundance of nutritious feed. This factor in profitable milk production should always be considered. Correspondents report especial trouble from constipation when feeding Kaffir-corn grain. We overcame this effect last winter by feeding alfalfa, which has an opposite tendency, with the Kaffir-corn grain, and kept our cows in good condition, securing a good yield of milk at a low cost, and butter of good quality.

Health for 10 cents. Cascarets make the bowels and kidneys act naturally, destroy microbes, cure headache, biliousness and constipation. All druggists.

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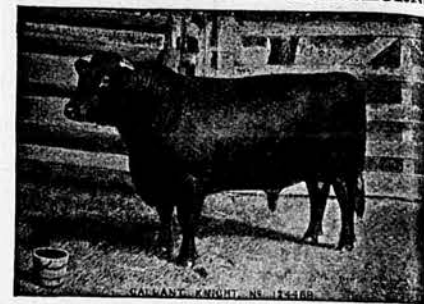
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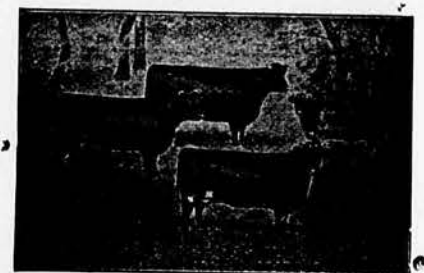


THE HARRIS-BRED BULL, GALLANT KNIGHT 124466, a son of Gallant, out of 8th Lincoln Golden Drop, heads herd. Females by the Crick-shank bulls. Imp. Thistle Top 88876, Earl of Gloster 74523, etc. Size, color, constitution and feeding qualities the standard. A few good cows for sale now bred to Gallant Knight. A few young bulls of serviceable age for sale. Address: **T. K. TOMFON & SONS, DOVER, KANS.**



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Lincoln 47085 by Beau Real, and Klondike 42001, at the head of the herd. Young stock of fine quality and extra breeding for sale. Personal inspection invited. **ALBERT DILLON, HOPE, KANS.**

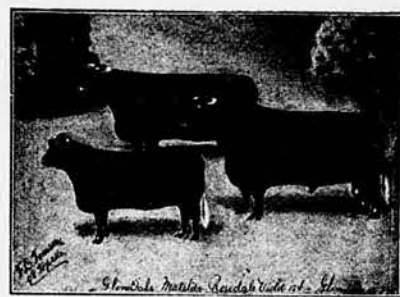


HERD BULLS FOR SALE

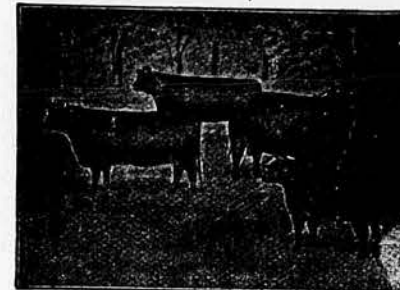
KANSAS LAD 134085, eighteen months old, bred by Duke of Kansas 123126, and tracing to Imp. Orlando and Imp. Golden Galaxy. Also **CONSTANCE DUKE 134083**, twenty months old, by Duke of Kansas out of 5th Constance of Hilldale by 6th Duke of Oxford 55734.

These two grand bulls should be herd-headers. Come and see them or address

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GLENDAL SHORTHORNS, Ottawa, Kans.
Leading Scotch and Scotch-topped American families compose the herd, headed by the Cruickshank bulls, Glendon 119370, by Ambassador, dam Galanthus, and Scotland's Charm 127264, by Imp. Lavender Lad, dam by Imp. Baron Cruickshank. Young bulls for sale. **C. F. WOLF & SON, Proprietors.**



CEDAR HILL FARM.

Golden Knight 108086 by Craven Knight, out of Norton's Gold Drop, and Baron Ury 2d by Godoy, out of Myrie 50th, head the herd, which is composed of the leading families. Young bulls of fine quality for sale.

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340 Cows, Heifers and Steers
in lots to suit the purchasers.

40 head of 2-year-old native steers at \$30.50. The Arizona and Colorado are well-bred cattle, of good colors, which we offer as follows:
Yearling steers at..... \$25.00
2-year-old steers at..... 30.00
3-year-old steers at..... 35.00
Yearling heifers at..... 22.00
2-year-old heifers at..... 23.00
3-year-old heifers at..... 26.00
These cattle are on good pasture for the season, and will be sold on easy terms to responsible buyers. Address, **J. W. HIGGINS, Jr., Hope, Kan.**

NON-POISONOUS SURE PROTECTION

CHLORO-NAPHTHOLEUM

Death to Ticks, Scab, Mange, Foot Rot and Disease Germs.

THE PREVENTIVE TREATMENT

PREVENT HOG CHOLERA.

"I received the Chloro-Naphtholeum, and have used it in disinfecting my swine pens, stables and poultry house. Also have used it to sprinkle our hogs about once each week, as a preventive and cure to rid hogs of lice. I have more faith in disinfectants than medicine. We consider your Chloro-Naphtholeum without a rival, and think it should be used by every swine-breeder regularly, as often as once each week."

A. J. LOVEJOY, River Side Farm, Roscoe, Ill.

The first and last thing in the treatment of hog cholera is to disinfect with Chloro-Naphtholeum. Use Chloro-Naphtholeum with the feed and in the drinking water. Spray the pens daily with Chloro-Naphtholeum.

We will send you free, our short, simple, practical book on Hog Cholera. Write for it. Ask your local dealer for Chloro-Naphtholeum. If he is not up-to-date, write or telegraph, **WEST DISINFECTING CO., 25 East 59th St., New York City.** Sample gallon can sent express paid for \$1.50.

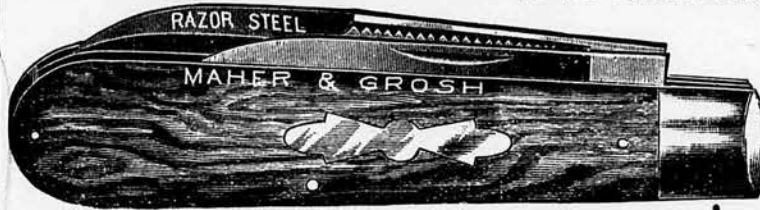
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Sunny Slope Herefords.



100 HEAD FOR SALE.

Address **C. A. STANNARD,**

CONSISTING OF 32 BULLS, from 12 to 18 months old, 21 2-year-old HEIFERS, the get of Wild Tom 51292, Kodax of Rockland 40781 and Stone Mason 13th 42397, and bred to such bulls as Wild Tom, Archibald V 64433, Imported Keep On 76015 and Sentinel 76063, Java 64045.

40 1-year-old HEIFERS and 7 COWS.

These cattle are as good individuals and as well bred as can be bought in this country. Finding that 400 head and the prospective increase of my 240 breeding cows is beyond the capacity of my farm, I have decided to sell the above-mentioned cattle at private sale and will make prices an object to prospective buyers.

Emporia, Kans.

MARKET REPORTS.

Kansas City Live Stock.

Kansas City, Sept. 18.—Cattle—Receipts since Saturday, 11,811; calves, 295; shipped Saturday, 1,113 cattle; 460 calves. The market was slow but steady. The following are representative sales:

DRESSED BEEF AND SHIPPING STEERS.			
No.	Ave. Price.	No.	Ave. Price.
15.....	1,329 \$6.00	24.....	1,210 \$5.60
1.....	1,130 5.00	2.....	1,363 4.75

WESTERN STEERS.

96.....	1,174 \$5.15	46.....	1,128 \$4.60
10.....	1,251 4.35	73 T.....	1,100 4.35
125 T.....	1,025 4.25	99 stk.....	840 4.25
35 T.....	1,090 4.20	50 T. fdr.....	1,090 4.05
20 T. fdr.....	1,038 4.05	58 stk.....	980 3.85
42.....	622 3.60	130 stk.....	824 3.50

TEXAS AND INDIAN STEERS.

103.....	1,035 \$3.90	77.....	1,038 \$3.90
111.....	957 3.85	120.....	945 3.85
93.....	962 3.75	26.....	930 3.65
23.....	1,061 3.75	61.....	967 2.90
52.....	934 3.55	76.....	917 3.55
116.....	635 2.90	132.....	644 2.90

TEXAS AND INDIAN COWS.

27.....	727 \$3.05	27.....	734 \$3.00
48.....	677 2.85	32.....	756 2.55
21.....	792 2.85	16.....	460 2.80
52.....	611 2.75	34.....	614 2.75
28.....	711 2.75	64.....	666 2.55
130.....	658 2.55	58.....	694 2.55

WESTERN COWS.

2.....	515 \$4.00	222.....	881 \$3.15
31.....	888 3.15	58.....	875 3.15
51.....	877 3.15	51.....	851 3.15
12.....	829 3.15	22.....	895 2.90
65.....	831 2.90	102.....	732 2.85
102.....	730 2.85	48.....	818 2.80

NATIVE HEIFERS.

70.....	712 \$5.25		
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NATIVE COWS.

2.....	920 \$4.50	1.....	1,120 \$3.40
13.....	984 3.35	13.....	1,053 3.15
4.....	985 3.15	2.....	925 3.00
1.....	1,037 2.90	6.....	843 2.85
1.....	1,200 2.75	8.....	817 2.65
2.....	880 2.25	1.....	850 1.85

NATIVE FEEDERS.

8.....	1,061 \$4.50	26.....	914 \$4.35
13.....	975 4.20		

NATIVE STOCKERS.

6.....	408 \$4.65	23.....	817 \$4.50
8.....	737 4.50	20.....	871 4.40
7.....	510 4.35	37.....	584 4.35
6.....	636 4.10	7.....	785 3.80

STOCK COWS AND HEIFERS.

16.....	983 \$3.60	3.....	616 \$3.50
2.....	460 3.50	1.....	970 3.25
1.....	1,110 3.25	1.....	700 3.15
8.....	817 3.20	2.....	905 3.00
2.....	830 3.00	2.....	861 2.75
2.....	875 2.75	7.....	635 2.75

Hogs—Receipts since Saturday, 3,137; shipped Saturday, 363. The market was steady. The following are representative sales:

57.....	280 \$4.42½	67.....	285 \$4.42½	17.....	161 4.40
57.....	168 4.40	77.....	169 4.40	58.....	284 4.40
61.....	247 4.40	58.....	255 4.40	10.....	107 4.40
62.....	250 4.40	67.....	336 4.40	74.....	212 4.40
92.....	176 4.40	55.....	287 4.40	73.....	289 4.40
69.....	194 4.37½	70.....	251 4.37½	55.....	263 4.37½
10.....	218 4.37½	61.....	245 4.37½	21.....	179 4.37½
84.....	253 4.37½	34.....	251 4.37½	95.....	214 4.35
8.....	248 4.35	69.....	240 4.35	67.....	279 4.35
39.....	213 4.35	82.....	302 4.35	83.....	213 4.35
71.....	235 4.32½	4.....	180 4.25	1.....	600 4.00
11.....	313 4.05	3.....	263 4.00	1.....	140 4.00
3.....	186 4.00	3.....	233 3.85	60.....	143 3.75
4.....	97 3.50	1.....	160 3.50	5.....	138 3.50
21.....	149 3.25	26.....	76 3.00	61.....	75 2.00

Sheep—Receipts since Saturday, 4,616; shipped, 1,310. The market was steady. The following are representative sales:

34 lms.....	74 \$4.50	55 sh.....	99 \$4.35
1287 M. yrl.....	67 4.10	17 sh.....	110 4.00
178 M. fdr.....	65 3.85	63 Tex.....	73 3.50
182 A. stk.....	72 3.30	32 bk lms.....	44 3.00

South Omaha Live Stock.

South Omaha, Neb., Sept. 18.—Cattle—Receipts, 10,400; market steady; native beef steers, \$4.50@6.10; western steers, \$4.30@5.25; Texas steers, \$3.75@4.40; cows and heifers, \$3.70@4.35; canners, \$2.50@3.50; stockers and feeders, \$3.75@5.00; calves, \$4.00@5.50; bulls, stags, etc., \$3.00@4.00.

Hogs—Receipts, 2,500; market a shade lower; heavy, \$4.25@4.32½; mixed, \$4.30@4.35; light, \$4.32½@4.37½; pigs, \$4.25@4.35; bulk of sales, \$4.30@4.32½.

Sheep—Receipts, 3,200; market active, stronger; yearlings, \$3.90@4.25; western muttons, \$3.70@4.10; stock sheep, \$3.50@4.00; lambs, \$4.25@5.50.

Chicago Live Stock.

Chicago, Sept. 18.—Cattle—Receipts, 23,000; market steady to 10c lower; beefs, \$4.50@6.65; cows and heifers, \$2.00@5.35; Texas steers, \$3.50@4.25; stockers and feeders, \$3.50@5.00; westerns, \$4.00@5.25.

Hogs—Receipts, 33,000; market steady to 5c lower; mixed and butchers, \$4.35@4.72½; good heavy, \$4.40@4.70; rough heavy, \$4.15@4.25; light, \$4.35@4.75.

Sheep—Receipts, 18,000; market steady; sheep, \$3.40@4.50; lambs, \$4.25@6.50.

St. Louis Live Stock.

St. Louis, Sept. 18.—Cattle—Receipts, 5,500; market steady; beef steers, \$4.00@6.35; stockers and feeders, \$2.50@4.60; cows and heifers, \$2.00@5.00; Texas and Indian steers, \$3.10@4.45; cows and heifers, \$2.00@3.50.

Hogs—Receipts, 3,200; market steady; pigs and lights, \$4.50@4.60; packers, \$4.40@4.60; butchers, \$4.75@4.65.

Sheep—Receipts, 600; market strong; native muttons, \$3.50@4.00; stockers, \$2.60@3.50; lambs, \$4.00@5.50.

Chicago Grain and Provisions.

Sept. 18.	Opened	High'st	Lowest	Closing
Wheat—Sept.....	71½	71½	70½	70½
Dec.....	71	71½	70½	70½
May.....	74	74	73½	73½
Corn—Sept.....	82½	83½	82½	82½
Dec.....	28½	29	28½	28½
May.....	29½	29½	29½	29½
Oats—Sept.....	21½	22	21½	21½
Dec.....	21½	21½	21½	21½
May.....	22½	23	22½	22½
Perk—Oct.....	7 95	7 95	7 90	7 95
Dec.....	8 07½	8 10	8 02½	8 10
Jan.....	9 57½	9 57½	9 50	9 55
Lard—Oct.....	5 30	5 30	5 27½	5 27½
Dec.....	5 32½	5 35	5 32½	5 35
Jan.....	5 42½	5 47½	5 45	5 45
Ribs—Oct.....	5 15	5 20	5 15	5 17½
Dec.....				4 90
Jan.....	4 97½	4 97½	4 90	4 90

Kansas City Grain.

Kansas City, Sept. 18.—Wheat—Receipts here to-day were 279 cars; a week ago, 235 cars; a year ago, 303 cars. Sales by sample on track: Hard, No. 2, nominally 63¢@65¢; No. 3 hard, 60¢@62½¢; No. 4 hard, 55¢@61½¢; rejected hard, 51¢@56¢; no grade, 55¢. Soft, No. 2, nominally 67¢; No. 3 red, 63¢@65¢; No. 4 red, 57½¢@59½¢; rejected, 55¢.

Corn—Receipts here to-day were 35 cars; a week ago, 28 cars; a year ago, 38 cars. Sales by sample on track: Mixed, No. 2, 29¢; No. 3 mixed, 29¢; No. 4 mixed, nominally 27¢@28¢; no grade, nominally 25¢@26¢. White, No. 2, nominally 29¼¢@29½¢; No. 3 white, 29¢; No. 4 white, nominally 26¢@28¢.

Oats—Receipts here to-day were 16 cars; a week ago, 16 cars; a year ago, 41 cars. Sales by sample on track: Mixed, No. 2, 20¼¢@21¼¢; No. 3 mixed, 20¢@21¼¢; No. 4 mixed, 19¼¢. White, No. 2, 24¼¢@25¢; No. 3 white, 23¢; No. 4 white, nominally 20¢@21¢.

Rye—No. 2, 53¢@53½¢; No. 3, 52½¢; No. 4, nominally 51¢.

Chicago Cash Grain.

Chicago, Sept. 18.—Wheat—Cash, No. 2 red, 71½¢@71¾¢; No. 3 red, 68¢@70¼¢; No. 2 hard winter, 68½¢; No. 3 hard winter, 66¢@67½¢; No. 1 northern spring, 72½¢; No. 2 northern spring, 71½¢@72¢; No. 3 northern spring, 64¢@70¼¢.

Corn—Cash, No. 2, 32¼¢; No. 3, 31¼¢.

Oats—Cash, No. 2, 22¢; No. 3, 21¼¢.

St. Louis Cash Grain.

St. Louis, Sept. 18.—Wheat—Cash, No. 2 red, elevator, 68½¢; track, 69¼¢@70¼¢; No. 2 hard, 66¢@68¢.

Corn—Cash, No. 2, 30¼¢; track, 31¼¢@32¢.

Oats—Cash, No. 2, 22¼¢; track, 22¼¢@23¢; No. 2 white, 24¼¢.

Kansas City Produce.

Kansas City, Sept. 18.—Eggs—Strictly fresh, 13½¢ per doz.

Butter—Extra fancy separator, 21¢; firsts, 19¢; seconds, 11¢; dairy, fancy, 16¢; store packed, 13¢; packing stock, 12¢.

Poultry—Hens, 7½¢; broilers, 8½¢; roosters, 15¢ each; ducks, 6¢@7¢; geese, 5¢@6¢; turkeys, hens, 8¢; toms, 7¢; pigeons, 75¢ per doz.

Vegetables—Radishes, 5¢ per doz bunches. Green beans, 75¢@81¢ per bu. Sweet corn, 7¢@8¢ per doz. Tomatoes, home grown, 60¢@80¢ per bu. Cucumbers, 40¢@60¢ per bu. Cabbage, home grown, 50¢@85¢ per doz.

Grapes—Home grown, 25¢ per 10-lb. basket.

Potatoes—Home grown, 25¢@30¢ per bu.; Kaw valley, sacked, 28¢@30¢ per bu. Sweet, 45¢@50¢ per bu.

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We hardly can expect the average farmer to try experiments with fowls. He has plenty of other work to do, and it is customary to leave the care of hens to the good wife. It costs no more to feed a first-class fowl than it does to feed a dunghill, and the former will lay many more eggs than the latter. Does such a statement appeal to a farmer? Yes; it may, but he does not believe it to be a fact. To him a hen is a hen, and she is supposed to lay eggs. Occasionally he discovers that one hen is a better layer than another; yet I doubt very much whether he ever stops to consider why. The hardest task is to convince our farmer friend that a hen costing \$1.50 can possibly be any better than one costing 50 cents. This latter is the price usually considered high enough for any hen.

INCREASED EGG YIELD.

It is through the laying quality alone of a thoroughbred that we must try to convince the farmer that it is better than a dunghill. Eggs, and plenty of them, appeal to him. He can produce a chicken and a plump rooster quite good enough for the market stall, from his dunghills, and at but little cost for feed and care. I doubt very much whether it would pay the average farmer to raise what are known as first-class broilers. It would take much of his time, and in order to put broilers on the market early enough to catch the highest price, he would be obliged to use incubators and set his eggs as early as December and January. To obtain fertile eggs so early, means skillful and scientific breeding, which would take him out of the ordinary rut of a farmer and make him an expert. Setting eggs under a hen is more to his liking, and besides, the hens move along in their natural way and set when they become broody. His chicks mature to broiler age about August 1 and this is early enough for him to realize a little profit.

The first step, therefore, towards inducing him to adopt thoroughbreds is through the increase in the egg yield. If he can see that for no more expense in feed and care he can obtain more eggs from each hen, it is convincing argument that they are better. Once having bought or acquired by trade, or in any other way having obtained some thoroughbreds, he must remember to keep them separated from the rest of his flock. The safest way to do this, and to be free from all anxiety as to contamination from his common fowls, is to get rid of the latter entirely and keep nothing but thoroughbreds—so many mistakes have been made by farmers buying first-class thoroughbred hens, and then letting them run at large with the rest of the flock.

This is a fatal error. It is the reverse of what is intended, for it improves slightly his common fowls and ruins his thoroughbreds in one season. Thoroughbreds must be kept pure. If a new male is desired for next year, he must of course be of the same breed and variety as the original stock. Barred Plymouth Rocks must be kept always Barred and not crossed by White or Buff, thinking that because they are all Plymouth Rocks it will do as well. This will probably sound absurd to breeders of these varieties, but it has been done frequently, and the farmers were perfectly ignorant that they had begun crossing in color. Of course, it does not materially decrease the value of the breed as far as the flock is concerned, and it may not decrease the egg yield, as all Plymouth Rocks are good layers, but it may degenerate into careless crossing, which will soon reduce the thoroughbred to a dunghill.

THE BEST AGE.

Thoroughbreds, when from good laying

strains, can be kept good layers only by careful attention. The eggs from the best layers, for example, those that lay first and continue the longest, should be given preference for setting over those of others that lay later and stop earlier. Early and good layers will reproduce the same quality in their pullets. A strain kept in this manner for years, with the care necessary to keep them in good condition, will develop a prolific laying strain which will become of great value as money-makers. Again, there is little value in a layer after her hen year. She will lay her best in pullet year and a little less in hen year; then she should be disposed of. If no other way presents itself, she will always bring a good price in the market as a dressed or live fowl.

It is in this very point of age that farmers make great mistakes. If a hen is considered a good layer, she usually becomes a pet and is kept on indefinitely, until she dies of old age or disease. Little do they stop to think that she is laying fewer and fewer eggs. The feed that she requires would keep a first-class layer, which would be a source of considerable income. It is in these small points of economy that money can be made. The thoroughbred is the farmer's fowl. She is a producer and a money-maker, and she will stand good care and abuse equally well. She is worthy of the former, and often gets the latter, but her blood and breeding stand her in good stead, and stamp her, through any and all conditions, the best of our domestic fowls. —E. O. Roessle, in Country Gentleman.

Fowls in Winter.

If you want your hens to furnish you fresh eggs during cold and stormy days of winter you will have to take pains in furnishing them with proper food and with water. As a preliminary condition, of course, you must have the hen-house warm enough so that the fowls are safe from having feet and combs frozen. Any draught, if only through a knot-hole, that will strike where your hens roost during these cold nights will be fatal to your chances of success in getting a paying quantity of eggs, and possibly fatal to the fowls themselves. Don't imagine that you do your share if you fill a big hopper full of grain, whether this be wheat, oats, corn or peas, to which the fowls can help themselves at their pleasure and discretion. Should that be your plan, however, you should at least mix oats and wheat in with the heavier grains (corn and peas) and have it arranged so that the oats must be eaten with the others in order to let in a new supply of the mixed grains. A much better plan, however, is the one I am now practicing with good results, namely, feeding at one meal only what the fowls will eat up clean, and the heavier grains only to the extent that the birds are willing to work for their grub. The morning meal consists of boiled potatoes or roots, mashed and mixed with bran, linseed-oil meal, green cut bone, etc., fed while still quite warm. Green stuff of any kind, such as cabbage, lettuce, waste from the greenhouse, finely chopped apples, carrots, beets or potatoes, as also chopped clover, may be given at noon in any quantity. The birds will not eat too much of it. Of all grains that could be kept within reach of the fowls at all times oats are probably the safest, if not the only safe one. For an evening meal I give corn on the cob. Feed early, so that they have plenty of time to shell it. It seems to me a foolish thing to shell corn for hens when they can do that work themselves, and the exercise will do them a great deal of good—indeed, it is almost necessary in order to keep them in good health and in best condition for laying eggs. If the corn you are feeding is already shelled, by all means scatter it upon a layer of litter, barn-floor sweepings, leaves, etc.; in short, upon anything which the hens can scratch over in search of the grain. Try to keep their blood circulation up and all right.—T. Greener, in Farm and Fireside.

Poultry Points.

In attempting to raise early broilers for market it is an object to select a breed that makes a quick growth and matures early. There is quite a difference in breeds in this respect, and as earliness is important a breed that grows fast will give much better results than a slow-growing breed. Before commencing to fatten the turkeys for early market the ones intended to be saved for breeders should be selected and marked in some way, so that no mistakes will be made. Only the best should be saved for breeders, and every two or three years at least the tom should be changed in order to introduce new blood.

There is no advantage in scattering food of any kind on the ground. When feeding either grain or soft food it is best to feed upon clean boards. A little grain may be mixed in with litter as an inducement for the hens to scratch, but this can hardly be called feeding. One item in maintaining health is cleanliness and this can not be

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Before the weather gets too cool the poultry quarters should be thoroughly overhauled and cleaned up, and if any repairing is necessary let it be done. The poultry-house must be warm if the hens are to lay in winter. No matter how well fed warmth must be provided in addition if eggs are secured. A little care in fastening up cracks and in lining the inside with paper and providing nests with plenty of clean, dry straw will help materially. While good ventilation is necessary, care must be taken to avoid direct drafts upon the fowls, and especially so when upon the roosts at night. With proper management eggs can be secured in winter and this is when the best prices and the best profits are realized.

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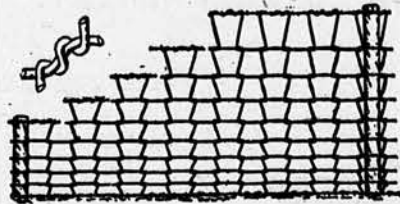
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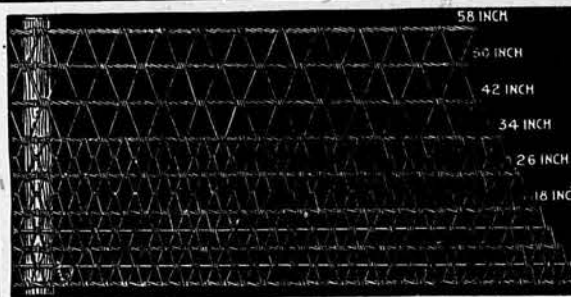
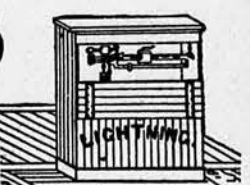
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To be present at the fifth annual sale of representative Poland-China swine, to be held at Richmond, Mo., November 4, 1899.

GEORGE W. FALK, Richmond, Mo.

CLOSING-OUT SALE OF JERSEY CATTLE.

Kirksville, Mo., October 16, 1899.

The entire Kinloch Jersey herd of 130 head will be sold at auction. The only herd in the world with two cows testing over 32 pounds of butter in seven days.

30 Tested Cows, 35 Heifers, 15 Bull Calves.

The reason there are so many bulls is because three-fourths of the young calves are males.

Buy a bull for your dairy at your own price.

Dr. C. E. Still, Owner.

Fred Zimmerman, Mgr.

Grand • Dispersion • Public • Sale.

—65 HIGH-CLASS—

REGISTERED HEREFORDS.

Fayette, Howard Co., Mo., Wednesday, September 27, 1899.

Our entire herd founded in 1886 whose breeding consists of The Grove 3d 2490, Anxiety 4th 9904, Garfield 7015, Lord Wilton 4057, Hesiod 2d 40679. Nearly one-half of the offerings sired by Beau Donald 58996, the bull that left our farm two years ago for \$1,000, and now valued at \$5,000. The offering will consist of 19 bulls and 46 cows and heifers that are owned jointly by myself and son, which we now sell to satisfactorily adjust our partnership interests. Twenty-five of these cows and heifers are bred to calve from September 1st to January 1st, next. The bulls range from 10 months to 2½ years of age. For complete information write for free copy of catalogue.

HAMP B. WATTS, Fayette, Mo.

W. W. WATTS, Manager.

Cols. WOODS, EDMONSON and SPARKS, Auctioneers.

Fayette is situated on M., K. & T. R. R., 69 miles north of Sedalia, 90 miles south of Hannibal, 100 miles east of Kansas City and 140 miles west of St. Louis.

PLEASE MENTION KANSAS FARMER WHEN WRITING ANY OF OUR ADVERTISERS.

RAMS FOR SALE.

800 from the Champion Merino flock of the West. American, Delaine, and Rambouillet. Also forty Shropshire bucks. Address

E. D. KING,
BURLINGTON, KANSAS.

450 High Class Shropshires 450

200 registered rams, 150 registered ewes, also ram and ewe lambs. Sheep are true type, and square built beauties. Prices reasonable. Foundation flocks a specialty. Come or write. Address

W. J. BOYNTON, Breeder and Importer,
Rochester, Minn.

Italian Bees.

Full colonies shipped any time during summer and safe arrival guaranteed. It will pay you to try my stock of Italian bees in the Latest Improved Hives. Nothing will double in value quicker.

A. H. DUFF, Larned, Kans.

Great Four Days' Auction Sale===Shorthorn Cattle.

AT THE KANSAS CITY STOCK YARDS SALE PAVILION.

October 17, 18, 19, 20, 1899.

H. C. & Joseph Duncan, Osborn, Mo.,
George Bothwell, Nettleton, Mo.,
October 17 and 18,

Will sell 100 Shorthorns, consisting of Cruickshank and Cruickshank-topped.

Among them 5 Cruickshank bulls and 15 other bulls Cruickshank-topped; 15 Cruickshank cows and heifers.

The remainder Cruickshank-topped from old reliable American and English families, by such bulls as Imp. Grand Elector, Galahad Grand Victor and Baron Dudding.

All cows of suitable age either bred or have calves at foot.

These are choice offerings.

The best we ever sold at auction.

Col. J. W. Judy,
Col. J. W. Sparks,
Col. R. E. Edmonson. } Auctioneers.

SALE BEGINS EACH DAY AT 1 O'CLOCK. Catalogues ready Sept. 25.
For the Duncan-Bothwell catalogues address either H. C. Duncan, Osborn, Mo., or George Bothwell, Nettleton, Mo. For the other catalogues T. W. Ragsdale & Son, Paris, Mo., and John Burruss, Miami, Mo.

T. Ragsdale & Son,
Paris, Mo., Oct. 19,

Will sell 50 head of selected cattle from our herd, consisting of Cruickshank and Cruickshank-topped bulls and heifers, including

Our Entire Show Herd.

John Burruss, Miami, Mo., Oct. 20,

Will sell my entire Riverside Herd of Shorthorns, consisting of about 60 head, 50 females and 10 bulls, including the 5-year-old Duke Bull Sangamon, Duke of Aldrie 125174, one of the best Bates bulls of the day; one yearling bull, descended from the Atwill herd. The females consist of Rennie, Rose of Sharon, Duchess, Craigs Van Meter and Hamilton Young Marys. Several of the cows have calves at foot; others of suitable age will be bred.

The young things have been inoculated against Texas fever.

PRIZE-WINNING POLAND-CHINAS AT AUCTION

At State Fair Grounds, Springfield, Ill., September 29, 1899.

Here we will offer, after the fair, our this year's show herd and the pick of two seasons' get from our Omaha Exposition champion, Perfect I Know. Catalogues ready September 5.

Col. D. F. McCracken,
Col. H. O. Correll, } Auctioneers. **W. N. Winn & Son, Kansas City, Mo.**

SECOND ANNUAL SALE OF DUROC-JERSEYS.

From the Model Herd of J. W. Stribling & Son, at

Earlham, Iowa, Wednesday, September 27, 1899.

The offering will include about 50 head—about 20 yearlings and fall sows of 1898 farrow, a few fall boars of 1898 farrow, and 25 head of spring farrow boars. Most of the sows are bred to matured boars and will farrow in October. This offering is strictly first-class, both in blood lines and in individuality. We would again invite special inspection of the stock in this sale, believing that you only have to see them to be convinced of their superior quality. Every animal sold will be in good condition and guaranteed as represented. All stock kept on pasture until day of sale and fed with care of their future usefulness for breeding animals. Sale held in a tent, and will be a go, rain or shine. Catalogues now ready.

Parties unable to attend sale can send bids to F. F. LUTHER, Grand Junction, Iowa; Exchange Bank, Earlham, Iowa, or to ourselves. We shall endeavor to make you comfortable on day of sale, and would be pleased to have our former customers, as well as all others who can possibly do so, to come and see us on September 27, 1899, and secure some good stock at your own price.

Col. F. F. Luther, Auctioneer.
C. B. Johnson, Clerk.

J. W. Stribling & Son.

THE COMING PUBLIC SALE

.....Cruickshank and Scotch Topped.....

54 Registered Shorthorns

At South Omaha, Neb., October 5, 1899.

Consisting of 42 cows and heifers and 12 serviceable bulls by such sires as Norfolk 120336, Velvet Prince 113981, Waterloo Prince 114063, Baron Ury 118024 and others as strongly bred. About 24 females well along in calf. Herd headers among the bulls. Write for free copy of the sale catalogue giving full particulars.

Sale Will Open at 1 O'clock p. m.

For Catalogue address,

W. J. Ewing, Saxton, Mo., or B. O. Cowan, New Point, Mo.

Col. F. M. Woods, Auctioneer.

PUBLIC SALE

—OF—

POLAND-CHINAS and SHORTHORNS

At Ashland Stock Farm, Muscotah, Atchison Co., Kas.

Monday, October 2, 1899.

11 Pure-bred Shorthorn Bull Calves.

67 Poland-China Hogs.

My annual offering of Poland-Chinas will consist of 59 Spring Pigs, 32 boar and 27 sow pigs; 6 yearling sows, sired by Gold Bug 18698, and two 2-year-old sows.

Spring pigs are sired by Gold Bug, Leo Medium, son of Woodburn Medium; Tibb's U.S. 2d, a grandson of old Black U. S. The pigs are out of sows by L's Tecumseh, One Price, Latest Fashion, J. H. Sanders, Hands Off, Prince Tecumseh, Tecumseh 96, and Chief K, by Tecumseh 2d.

Everybody invited to come to the sale. The stock offered will please visitors, both as to breeding and individual excellence.

For catalogue address

Col. J. N. Harshberger,
Auctioneer.

M. C. Vansell,
Muscotah, Kas.