

The Farm.

Hired Help versus Machinery.

One of the most critical points which a farmer has to decide in connection with his field operations, is whether he should engage laborers to perform the work, or purchase implements. No rule will apply to all parts of the country, for in some sections laborers are cheaper and more plentiful than in others, and the facilities for procuring farm machinery and repairs are greater. When laborers are scarce, some farmers have the habit of keeping lounging laborers about them, and expect them to be always on hand when a push takes place. This is a bad practice, for such loafers are dearer in the end, being generally unmerciful to the beasts, careless in handling implements and tools, and wasteful in every respect. Besides, keeping two or three hands to do the work which should be performed by one, is a great tax on the wife, especially in hot weather when her duties are naturally most onerous. It would be much more profitable to engage skilled help; such has been found to be the best practice in all trades, and there is no reason why it should not prove so effectual amongst the farmers. But it has been found difficult to procure reliable hands except when they can be engaged by the year, and this is impracticable amongst many farmers. This defect in our system of farming may be remedied in three ways: (1) Laying out the work so that a greater portion of it may be performed in winter, or engaging in such branches of farming as demand more attention in winter, such as feeding stock under a more improved system of management, curing and hauling manure on the best plan, hauling muck for stables and fields, etc. (2) Building houses for married laborers; and (3) performing more of the field work by machinery. There is a loss sustained in going too extensively into implements, for the more expensive kinds employed in the field can only be used for a few weeks during the year, and spacious buildings are required for their protection from the weather. Expensive machinery can never be employed to advantage except on large farms, and when the purchaser is an expert in judging and using it. This is just as necessary a qualification as the judging of live stock, and in one respect more so, when it is considered that the country is full of irresponsible agents who endeavor to make a few dollars out of the farmers at any sacrifice as to their own reputation or that of the establishment for which they are canvassing. The best practice which we have seen is when a number of neighbors unite in the purchase of the more expensive kinds of machinery, such as threshing machines, self-binders, hay loaders, tedders, etc. In this way those who have clean farms can prevent their fields from becoming infested with growths from noxious seeds. In the United States the custom of erecting dwellings for married laborers is fast gaining ground, frequently giving them a percentage of the crop in lieu of wages. This is a laudable practice and should be more extensively adopted in this country. This is the only way in which honest labor can be permanently secured, and the laborer's wife and family may be constantly at hand whenever there are extra duties to be performed.

Testing Seed Corn.

Numerous tests have lately been made in the United States with regard to the vitality of seeds. The State University of Ohio have made tests of corn kept under different conditions, and taken from different parts of the ear, as illustrated by the following table:

TABLE I.

Selected ears from corn stored in crib, 100 kernels each taken from the tips, middles and butts of 100 ears.

	Tips.	Middles.	Butts.
Sample 1. 78 per cent	64 per cent	78 per cent	
" 2. 70 "	40 "	70 "	
" 3. 72 "	38 "	30 "	
" 4. 33 "	14 "	44 "	
" 5. 35 "	18 "	47 "	
" 6. 73 "	43 "	71 "	

TABLE II.

Selected ears, dried by artificial heat, and stored in small quantities together in dry rooms:

	Tips.	Middles.	Butts.
Sample 1. 100 per cent	93 per cent	93 per cent	
" 2. 99 "	100 "	100 "	
" 3. 99 "	90 "	90 "	
" 4. 96 "	100 "	96 "	
" 5. 100 "	100 "	98 "	
" 6. 92 "	94 "	98 "	

Similar experiments have been conducted at the New York Agricultural Experiment Station, showing the following results:

	Butt. Central.	Tip.
Merchantable ears, per 100 plants	111	90
Unmerchantable ears, " "	42	20
Total ears per 100 plants	153	110
Average length of merchantable ears	In. 7.1	In. 6.3
Average weight " " "	lbs. 50	lbs. 37.3
Average weight of 100 merchantable ears	44.6	40.9

"1. The tip kernels were the most prolific of good corn.

"2. The butt kernels were more prolific of good corn than the central kernels.

"3. The tip kernels bore longer ears than the other kernels, the butt kernels the next, and the central kernels the shortest. This fact was apparent to the sight as the corn lay upon the ground after husking.

"4. The merchantable ears from the butt were distinctly heavier than those from the tip, and those from the tip distinctly heavier than those from the central kernels.

"5. The butt kernels furnished more unmerchantable corn than did the central kernels, and the central kernels more than did the tip kernels."

These results are not only beneficial to the farmer, but also as establishing a more reliable basis for conducting experiments with artificial manures on the "co-operative system." It is useless to expect profitable results from these experiments unless the seeds have similar powers of vitality. Don't purchase bad seeds and debit the loss to the land or the fertilizer.

At a late meeting of the Maine State Grange, resolutions were passed appointing committees for the encouragement and advancement of various departments of agriculture, including Forestry, Ensilage, Fertilizers, Drainage, &c. Circulars were sent to the subordinate granges, asking their co-operation in conducting experiments and reporting results. Their main object is to ascertain which are the most profitable branches of farming.

Sorghum Manufacture—The Oak Hill Process.

Our Oak Hill process of manufacture has proven most successful. As it is not patented, any one can use it. The juice from the mill, after straining, is bleached with the fumes of burning sulphur—small works may use bi-sulphite of lime instead, which is the same, only a little more expensive. A bright sirup cannot be made with lime alone, unless enough is used to completely neutralize all the acid, and this, as every one knows, will make a dark sirup; but by using an additional acid, of which the sulphurous, or dioxide of sulphur is the best known and cheapest, the extra amount of lime can be used without injury to the glucose contained in the juice, and a light and bright sirup can be made from any variety of sorghum cane juice in good condition.

After the juice is bleached, or the bi-sulphite added (which latter may be at the rate of from one to two pints to one hundred gallons of juice), then as much milk of lime is added in the defecator as would neutralize all the acid in the juice, if none had been added; but with the additional acid it would still be in an acid state, showing on the litmus a purple color. Of course it requires some experience in this, and no one can expect to succeed at first. The litmus is not always reliable; some juice requires to be more neutral. The experienced eye is the best judge. The batch, after the addition of the lime, is heated up to the boiling point—a little slowly at the end, so as to heat it evenly without breaking the blanket. When the first blanket is taken off, it can then be seen whether the right quantity of lime has been used by testing in a bottle. If it settles very clear, like water, it has not quite enough lime; if it has a strong yellow tinge, too much lime was used; if the defecator does not hold any more juice it will have to be corrected with an acid—either superphosphate of lime, sulphate of alumina, or good, strong vinegar, even, if none other is at hand.

If the defecator is arranged with scum-troughs on each side, then the boiling may continue for a while and the scum be swept off as fast as it rises. Good clarified juice should have a light, transparent, straw color.

Settling tanks of same capacity as defecators should be provided in such number as to allow at least one hour's time to settle before evaporating.

In the evaporator the process of clarifying should be continued, if constructed right for that purpose, for at least fifteen minutes, with slow boiling, and sweeping off, until perfectly clean. By the time it marks about 10 B., then all the steam is turned on, and, breaking the batch, it can be left to itself until done, which should be between fifteen to twenty minutes (to 20 B.); then let it into another tank to settle, and finish as convenient, to 35 or 36 B. (saccharometers do not test alike at this point). Sirup should weigh eleven and one half pounds per gallon when cold.

A long trough from the finishing-pan into the sirup-room is the best cooler; this empties into a large, shallow box, from which the sirup can be conducted to the different tanks from which the filling of the barrels take place. We never draw into barrels until it is cooled below 90 Fahr.