

mill. The straw would thus yield \$3.0. Then the value of the seed—say 12 bushels at \$1.25 per bushel—would be \$15; making in all \$35 per acre. Or, if the farmer carried the straw to the mill, not divested of the seed, he ought to get \$11 or \$15 per ton, which, with a yield of three tons per acre, would give about \$45. The cost of pulling would be \$3 or \$1 per acre. The lecturer detailed several instances in which the growers had netted from \$28 to \$32 and upwards per acre, after allowing for the return of seed and all other expenses. The seed, he remarked, should be sown, under ordinary circumstances, about the last week of April, and if so, it might be harvested about the end of July or the beginning of August. He then proceeded to show what were the profits to be derived by the flax-buyer. The capital to establish a rotary or scutching mill need not be of a very extravagant amount. Where there was a good water-power, an outlay of \$600 or \$800 would provide everything. The principal expense would be for labour, but the returns would come in quickly. For a mill, which took in the produce of 500 acres, he estimated the returns as follows.—At 2 tons per acre, the produce would be 1000 tons of straw. In steeping and drying, it lost about one third, which would reduce the weight to 667 tons of rotted straw. This, at 300 lbs. per ton, would yield 200,000 lbs. of flax, which, at 15 cents per lb., would sell for \$30,000. Deduct from this cost of material, 5 cents per lb., cost of rotting and scutching 3 cents, other expenses, 2 cents, and there would be left 5 cents a pound, or \$10,000 to the manufacturer as a margin of profit for his industry and enterprise. The lecturer went on to show the various advantages which would result to Canada from the extension of the growth and manufacture of flax, and concluded with a brief history of flax culture from the earliest ages of the world. Before sitting down he exhibited samples of flax in the raw, scutched, and manufactured state, and also some of the oil-cake manufactured by the Toronto Linsed Oil Company, which, he said, was sold at \$30 a ton, and was invaluable to the cattle-raiser for feeding purposes. The raw flax shown was a fine sample, for which the lecturer was indebted to Mr. J. A. Donaldson, and which was grown at St. Mary's, in the county of Perth.

After some enquiries had been put, and remarks made by several of the gentlemen present, a vote of thanks to the lecturer was passed, and the meeting dispersed.

Peas as a Field Crop, Cultivation, &c.

It is a reproach upon American farmers that (excepting clover) we have so neglected the *Leguminosae* plants, as field crops. True, we raise white beans where we think nothing else will grow—when we are belated about getting in spring grain, or where crops fail in spots; but peas, lupins, lentils, vetches, and to these may be added crimson clover, lucerne, sanfoin, melilotus, &c.—are almost unknown to American agriculturists. This ought not so to be. Of them all, peas offer the most attractions perhaps. They will thrive upon any good corn or wheat soil, delighting most in clayey loams, but doing well on calcareous soils, if used for seeding.

This is an excellent crop to put upon a fresh turned sod, free from bad weeds. If the sod be heavy it need not be manured—otherwise apply a reasonable dressing of manure. Sow the peas as early as the ground can be worked, after pouring scalding water upon them, in quantities not exceeding six quarts of seed together, little more than covering them with water, letting them soak eight to twelve hours, and drying them with plaster. This scalding operation kills the "pea bug"—a weevil which lays its eggs just after the blossoms have fallen. The grubs penetrate the pods and locate each in an embryo pea. If they mature and remain till sown with the peas, when they appear and make their attacks at the proper time. Though unnoticeable at first (and not injuring green peas), they detract much from the value of the crop. Peas for seed should be sowed late—after June 12th—and will thus escape injury almost if not wholly.

The common Yellow Field Pea is usually cultivated, and the Marrowfat is also recommended. Those which make a very rank growth of straw are undesirable. Sow two to three bushels to the acre broadcast, and plough the seed under about three inches deep. After ploughing, it is well to roll the land, but if the ground is likely to bake, it may be "dragged" with a harrow turned over. The haulm of the peas is so branching and tangled, and the roots are drawn from the soil so easily that, when the crop is mature, a revolving hay rake will easily throw it into winrows. It is best to leave the hay in heaps which may be protected from rain by hay caps. The crop is fed to hogs or cattle without curing, when the peas are nearly ripe; ripe and threshed, the grain is

excellent fattening feed for cattle, horses, sheep, or hogs, and the straw, well cured, is similar to clover in feeding properties, and is a favourite fodder for sheep.

Peas are off the ground early enough to prepare the land for wheat, which follows very well, and this will be found a very excellent crop to introduce into a rotation, either before or after wheat. Thin sowed peas lodge badly, but when sowed thick they stand by holding on upon one another by their tendrils. The use of lime and gypsum, though advantageous to the crop, make the peas hard when boiled—the same is partly true of peas raised on lime soils.—*Am. Ag.*

How to Save Manure.

In Franklin Co., Mass., the place of my nativity, most of the tillage land has increased in value probably 100 per cent. within the last 25 years, by means of the careful husbandry and application of manures. Most of the barns are constructed with three stories, with a view to this object, a part of the middle story being devoted to stabling, with tight floors, so that the droppings, with the urine, may be precipitated below through convenient trap-doors. The lower story, or cellar, opens generally to the east or south, convenient for driving in a team loaded with alluvium, gathered from shallow holes or basins made on the lower sides of the roads at the opening of cross-bars, which are so necessary in the hilly country to prevent the water running in the road—or with muck, or with dirt of some kind, or any kind, to be mixed with the droppings, and absorb the urine and escaping gases. Sometimes old brine and refuse salt are thrown into the heap; sometimes suds from the wash-room; sometimes clear water, to prevent mould or fire-fang. I believe those who understand something of chemistry never add either ashes or lime to the manure heap, as this would set free the ammonia; and as to profit, would be something like burning bank bills to get the ashes.

But how shall we who have none, or only a part of these conveniences, save manure? Answer: Have a small yard for the cows, with a shed on one side, if convenient, with plenty of bedding of straw, or muck, or alluvium, or dirt from the woods, or any other place where it can be spared; throw the droppings into heaps, under cover if possible, and add as much dirt or more every day. On this heap throw everything that can be raked or scraped; old leaves, chip manure, horse droppings, suds, salt, old or new, old brine, &c. Every farmer can do this, and make acres rich every year which otherwise might have to grow poor.—T. P. B., in *Moore's Rural New Yorker*.

Use of Manures at the West.

THE *New York World* has the following:—

"A subscriber to the *Country Gentleman* concludes to stop his paper because too much space is taken up with the 'subject of manure and compost,' alleging that where he lives (Springfield, Ill.,) they 'use these articles for filling up holes in lots and streets.' Springfield has produced some remarkable men, but this indignant gentleman, who considers the attention given to the subject of manures by our agricultural journals a proper subject for complaint, must be an anomaly even in Springfield, Ill."

The last *Moore Farmer* puts a very pertinent query—suggested by this incident.

"An Illinois subscriber to the *Country Gentleman*, writes to that paper to have it discontinued, as he wishes to take an agricultural journal more suited to his region of country. He says, 'You take up a large part of your paper with the subject of manure and compost, when we use these articles for filling up holes in our lots and streets.' We are inclined to believe there is a great deal of truth in this statement, and if so it is a most startling announcement. Are the western people—who have chiefly emigrated from the older States—so regardless of the future interests of the country and their own posterity, as to deliberately practice a system of husbandry which will in a short time render their lands as unproductive as our own—by practising the same system which has rendered our own soil so barren, and compelled them to emigrate to the West in order to raise great crops? Years ago, when our country was first settled, those who located on river farms were considered fortunate in their situation as they would have but a short distance to cart their farm dressing to get it out of their way. To-day we are dependent upon the West for our bread: Europe is also dependent upon the West to a great extent. What shall we do, when the farms of the West, by the system of depletion now going on there are rendered as unproductive as our own?"

Flax-Wool.

We have received from the manufacturers in Dayton, Ohio, some specimens of a substance which they call *er-o-lin*, or wool-flax, and which we are assured can be used by spinners of wool in the proportion twenty-five or thirty per cent. without alteration of the machinery now in use, and without perceptible or material alteration in the quality of the goods.

The inventors of the process by which flax is thus prepared to take the place of cotton in the important and extensive manufacture of "mixed goods"—Messrs. George C. & James C. Davies, of Dayton—have been experimenting for several years, and a year and a-half ago succeeded in perfecting their product and the machinery necessary to prepare it, so that they have since then furnished wool manufactures with such quantities of their wool-flax as their limited machinery enabled them to produce. Thus this substance has been in practical use for more than a year; and it is said to have given satisfaction, and now finds a ready market among that class of manufacturers in the West. It can take the place of cotton in all mixed fabrics in which cotton and wool form the component parts, and has the remarkable property of being worked in any proportions with and exactly like wool—an advantage that no other vegetable fibre possesses in any very great degree. The machinery now set up in Dayton works up several tons of the raw material per day into flax-wool.

In use, spinners treat it precisely as they do sheep's wool, and twenty-five to thirty per cent. can be added without interfering with the fulling or felting of the cloth, while its presence in the fabric can only be detected by experts. It gives strength and firmness to the cloth, and it is supposed will add to its wearing qualities. It has not yet, so far as we know, been spun by itself; but it will require only a slight modification of the railway heads and draw-frames of the cotton-spinners to produce a yarn of ordinary fineness. It would seem, then, that stuff made from this prepared flax should become common in the market.

The operation of preparing the flax is very simple. The rotted straw is spread out on a creeping apron of the first machine or *breaker*, which delivers it at the end, without the intervention of hands, in the form of the best quality of rather short-staple tow, quite free from shives and the greater part of the seed stems. This tow is fed into another or finishing machine of larger extent, where it is freed from the remaining seed-ends, and reduced to a uniform staple of about two-and-a-half inches, ready to be packed into bales of 350 lbs. each, for shipment to the wool-spinner.

We have received some specimens of the flax-wool from the Ohio company's works, which can be examined by those interested in the progress of this most important branch of industry. Farmers should save their flax-straw, which will be in demand if the manufacture of this substance proves as successful as its inventors and those who have used it expect.—*N. Y. Evening Post*.

Swing Gate for Water Gaps.

A CORRESPONDENT of the *Genesee Farmer* contributes the following directions for making a gate that will swing with the current, when the stream over which it is placed is raised by freshets.—

"1st. The abutments should be made of sound logs. The size should be from six to ten feet square, according to the size of the stream, &c. These should be filled half way up with stone; then lay plank or poles across, resting on the logs, after which fill up the rest of the way with stone. In this way the abutments are held firmly in their place, and will stand against hard freshets.

"2nd. The gate can be made of common fence boards, hung by heavy wire, which will turn on the pole easier than standards put through turning the pole.

"Put up in this way, you have a permanent water gap, one that will last for years without repairing."

THE SORGHUM CROP.—Notwithstanding the unfavourable season of drouth and chinch bug, the aggregate crop of sorghum in Illinois is large, and the quality of syrup better than usual. The large establishments are doing a good business, and will make up for the failure of last year. The mill at Bulkley will turn out 700 to 800 barrels, that at Loda about 300 barrels, and many others in like proportion. The product is selling very readily at the smaller mills in the State at \$1 per gallon and upwards. That from the larger establishments will be refined and then put into market.—*Prairie Farmer*.