

Cut early, when the dew is off, and let the swathe lie for five or six hours to wilt before giving the tares to cattle.

The heaviest crop of vetches we ever grew was measured with 336 lbs. of the old style of Peruvian grains; 11 p. c., of nitrogen; it was an enormous production.

Do not try to make vetch-hay, unless you are sure of a fine time. When half-made, it is utterly spoiled by a shower of rain, and as for dust, only ask any one who has ever threshed it for seed after its getting drenched!

No reason why silage should not be made of tares as well as of red-clover. As for the latter, ask Mr. James Drummond, of Petite Côte, Montreal, what he thinks about it. As for tares not keeping "on account of the large percentage of nitrogen they contain"—v. "Country Gentleman"—that is an illusion.

Every one knows all about red-clover, except that some people will not believe that if sown too frequently in the same piece of land it will ultimately refuse to grow at all.

SAINFOIN is one of the durable plants. Like lucerne, if properly put in on well prepared suitable land, it will stand for several years. It is "not" impatient of frost, though it does not like to lie in a hole where the alternate thaws and frosts are naturally hostile to its health. Sainfoin may be sown among the barley, oats, or wheat in spring, and, as the seed is large, should be buried pretty deeply—about an inch. Three and a-half bushels of the rough seed, and rather less than a bushel of "milled" seed, are enough for an arpent. No use sowing it on land devoid of lime. On a hill-side at Lachine, in 1889, it did well, though its first winter was a trying one. As the first year's crop is rather thin, generally speaking, it is as well to add 6 or 7 pounds of yellow "hop-clover," (1) to make up a good swath. The way in which the sainfoin thrived out at Lachine was marvellous; and now comes the wonderful part of it. "Common red-clover sown with barley after a heavily manured root-crop, alongside the sainfoin, is (in the spring of 1891) only 5 inches high, on the 20th May, whereas the sainfoin is 17 inches high, and showing for bloom. To-day, June 18th, the sainfoin is 33 inches high, and should have been cut, if for hay, on the 10th": v. Journal, July, 1891, p. 107.

M. Nagant, writes—v. Journal p. 130, Sept. 1891—as follows: "A few days ago, Mr. Jenner Fust sent to the Department, at Quebec, a sample of sainfoin, accompanied by a sheaf of common red-clover. These had been grown together on exactly the same soil, quite close together. We saw with wonder how superior the sainfoin was to the other fodder-crop. The sample was magnificent, and showed a vegetative power perfectly extraordinary. It is twice the height of the clover, and, other things being equal, weighs many times as much as the clover grown on the same ground and is three weeks earlier. We congratulate Mr. Jenner Fust on having so thoroughly succeeded in endowing Canada with so useful a plant.

(Signed) H. NAGANT.

LUCERNE.—This plant has been so recently and so frequently described in this paper that we need hardly do more than allude to it as a good food for milch-cows if not allowed to grow too long before cutting. It rarely affects

(1) Commonly called, in England "trefoll."

the bowels of any stock injuriously, so it may be given when in its earlier stages of growth. Mr. Peck, a well-known writer in the U.S., papers, saw M. Bouthillier's crop of lucerne in the past autumn, and declared that it was the best he had ever seen in any country.

Lucerne is sown broadcast, just like clover, with the grain-crops; and perhaps should be buried a trifle deeper than other seeds. For other information see Journal for 1896 pp. 300, 346.

MIXTURES.—But our favourite food for summering milch-cows, in addition to such quasi permanent plants as lucerne and sainfoin, is a mixture of grain and pulse: 2 bushels of oats, 1 bushel of pease, and 1 bushel of vetches to the arpent. This should be drilled in about 2 inches deep—or, if there is no drill handy, dragged in with a grubber—on the well harrowed surface of a fall furrow; harrowed again, and rolled as usual. M. Séraphin Guévremont and his cousin, of Sorel, unite in saying that, on their farms, no green-food has ever produced so much and such rich milk as this our special mixture. To be cut when the pulse is in bloom. If a trifle of rape, say, 3 lbs. to the arpent be sown on the piece just before the rolling, some fine pickings for the sheep will succeed the fodder-crop.

MAIZE.—When allowed to stand till the grain is well advanced, is no doubt capital food for cows; but, thick-sown, green maize cannot be worth much for any purpose.

Flax-seed (linseed) for Calves.

Ever since we contributed to the columns of this periodical, (1) we have recommended the use of linseed and skim-milk for the rearing of calves in places where full milk is too valuable for that purpose. The only trouble in using linseed is that it must be crushed in some way or other if the goodness is to be extracted from it. This, as we have often observed, must be apparent to any one who will take a grain of the seed and try to crack it with his teeth. He will find a gummy envelop form at once over the grain that will defy all his efforts to break it; consequently, the gastric juices can in no wise affect the contents, and, as has been practically proved, 9 grains out of 10 pass away from the animal to whom they are fed undigested.

How to crush flax-seed is a puzzle, as handy crushers are scarce here. If milled alone, the oil exudes and is lost from within the mill-stones. In this country, we have taken equal parts of oats and linseed, ground the mixture between the stones, and the oats, acting as an absorbent, seemed to save waste. The only thing against this proceeding is the danger of the husk of the oat causing calves to scour, and in this way we lost, on the first trial, two good calves. But, afterwards, by carefully sifting the coarser parts of the husks away, we found no ill effects from the use of this food.

The calf being, taken away from the cow as soon as dropped, and fed on her milk in its natural state for the first week, may then be turned on to skim-milk and crushed linseed, the latter at the rate of two large table-spoonfuls a day, steeped in boiling water till thoroughly soaked, the whole drink to be given warm: nothing causes diarrhoea in calves more commonly than cold milk. In

(1) Now 18 years ago—1870.

a couple of weeks, more linseed may be used—the state of the bowls must be the guide—and at six weeks old, the addition of a few pease to the grist will be found advantageous.

We cannot too earnestly advise farmers to grow flax; the seed for the use of their stock, the flut for manufacturing purposes.

FLAX.—If we are to sow flax, we must first make up our minds for what purpose we intend to grow it: for its seed alone; for good fibre and a fair yield of seed; or for fine fibre, for the manufacture of linen, cambric, etc., and an inferior yield of seed. Upon these three points will depend the quantity of seed used to the acre.

We may as well say at once that we have grown this crop very successfully



Fig. 1.

in England, and what we shall state here in describing its cultivation: is entirely derived from our own practice.

SOIL FOR FLAX.—The best soil for flax, as for pretty nearly everything else, is a moderately light loam. The best crop of this textile we ever grew was on a fine gravelly flat; alluvial deposit; on the banks of the river Cam on the borders of Essex and Cambridge-shire; the previous crop was wheat (44 bushels to the acre), but the land was full of dung and had never been hard worked. The rule used to be never to manure for flax directly, but if a dressing was considered necessary it was given to the antecedent crop. The flax we are now considering was sown for the 2nd purpose mentioned above,

viz., for a fair crop of seed and a good quality of fibre, though not so fine as the lace-makers of Valenciennes, etc., require for their delicate work. It is probably a superstition, but the great Belgian and French-Flanders flax-growers persist in asserting that no good flax can be "retted" except in water from the river Lys.

PREPARATION OF THE LAND.—As we said above, no dung should be applied to the land for the flax-crop when good fibre is desired. Perhaps the best precursor of this plant would be a heavily manured crop of potatoes or roots. After the removal of the roots or tubers, the land should be ploughed a moderate depth, say, six inches, the ridges as wide as possible, being made quite flat, that is, not rounded in the least, and the water furrows most carefully drawn out. As

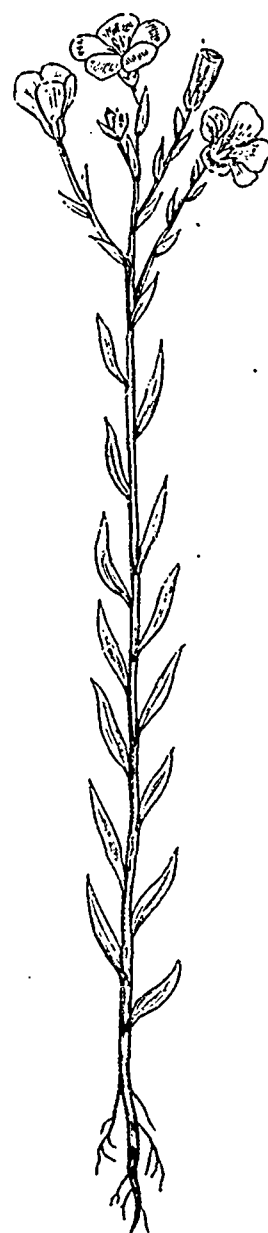


Fig. 2.

in this high-waged country hand-weaving is out of the question, we must do our best to clean the land thoroughly before sowing; therefore, when spring arrives, we must work the grubber and not the plough, by which means the stale-furrow surface will be kept constantly in its place, and no fresh weed seeds be brought up from below. Grub two or three times at intervals of a week or so, and in this way what seeds of weeds lie near the surface will sprout and be destroyed as fast as they show their first leaves.

We may do well to mention here that the reason we advise the ridges to be made broad and flat is, that it being a very important point at harvest to keep the flax as much as possible in bundles of the same length, if the ridges