

Flax Rust (*Melampsora lini* D.C.), also known as Firing, attacks the plant usually when full grown, but rarely kills it. The fungus forms pustules on the stem and leaves, which are at first orange in colour, but afterwards turn black. The black spots tend to discolour the fibre. Nothing can be done to check the disease after it appears and, consequently, the crop should be pulled before it becomes badly discoloured. As the black stage of the rust appears rather late in the season, early sowing is advisable. Seed should be selected from a healthy crop, and proper rotation in growing a crop of flax should be followed.

HARVESTING.

Flax, when grown for its fibre, is always pulled by hand, not cut. The exact time to pull the crop so as to obtain the greatest financial return from the fibre and seed combined varies to a certain extent with conditions of labour and climate. It is not possible, however, to ripen all the seeds fully and obtain the best quality of fibre at the same time. In growing the crop for fibre, the seed must be considered as a secondary product. In Ireland, it is not the custom to save any seed and, in consequence, the crop is not dried previous to retting. In other European countries the practice is to dry the flax after pulling, remove the seeds, and ret the straw afterwards.

From investigations, both chemical and microscopical, conducted at the Central Experimental Farm during the past year, it appears that flax fibres undergo a certain amount of lignification as they grow older, that is, they become harder and more brittle instead of remaining soft and silky. Flax, therefore, should be pulled before this lignification process has gone too far. Recent investigations carried out by Eyre and Fisher, in England, tend to show that the best yield of both fibre and oil may be obtained if the crop is pulled exactly in the middle of the period between flowering and final ripening. When the lower half of the stem is yellow and the leaves have fallen off, the crop may be considered as ready for harvesting. It is easy to determine when, on an average, the first seed-boll on each plant is ripe by crushing it between the fingers. The sap has been all absorbed, and the brown seeds will fall out readily. It is also easy to estimate roughly when half the capsules are ripe by pulling up a plant and counting the ripe and unripe seed-bolls present. It will be a good plan to pull between these limits, that is, after the first seed-boll has ripened and before half the seed-bolls are ripe. The sheaves are then set up in stooks to dry.

It is of great importance to keep the tips of the roots at the same level when pulling, as this renders the subsequent handling of the flax much easier. Any soil that adheres to the roots should be shaken or knocked off. The bundles should be tied rather loosely, should be uniform in size and of about 8 inches in diameter. A few stalks of the flax are generally used to make a band for tying. It will be found an advantage, if the weather is wet, to tie the sheaf not in the middle, but nearer the top end. Instead of putting the sheaves in stooks, each sheaf will, if spread out at the base, stand alone and will dry much more quickly after rain (fig. 6).

As flax has a delicate root, it is readily removed from the ground, and the work can easily be done by children. About as much flax as can be conveniently grasped between the hands is caught a short distance below the seed-bolls, the right hand having the thumb lowest in position. Care should be taken to avoid pulling off the seed-bolls, as this is likely to happen if they become entangled. Each handful, as pulled, is laid flat on the ground and more flax is placed on the top, until there is about sufficient to form a bundle. It is much more satisfactory for one and the same person to tie the bundles, as they are in that case more likely to be uniform in size and to be tied with the same degree of tightness. Any short patches of flax in the field should be kept separate from the general bulk.