

the season is sufficiently advanced to avoid danger from hard frosts at night. There are three kinds of barley, viz:—Two-rowed or Chevalier, four-rowed, and six-rowed. The first has been but little grown in Canada, though where tried it has given a large yield of extra good quality. It is the favourite kind in Great Britain, and produces the finest and heaviest kind of grain.

The four-rowed is the variety most commonly grown here, having a stiff straw and large plump grain weighing more to the bushel than the six-rowed.

The six-rowed has one decided advantage in view of the present admitted liability of the crop to be attacked by the wheat midge and to suffer from drought, viz:—it ripens ten days earlier than the four-rowed. Three bushels per acre is the usual amount of seed required when sown broadcast.

There is scarcely any crop on which special manures can be tried to so much advantage as barley. Super-phosphate at the rate of 200 lbs. per acre, sown on the land and harrowed in just before, or with the seed, will give it a rapid growth in the early stages and a tendency to early maturity, besides adding considerably to the productiveness of the crop.

Oats will do well on land that is too heavy or too light for wheat or barley. Rich alluvial flats will grow good oats, and can be at the same time seeded down to permanent grass with timothy and red top. Oats are, however, a foul crop, and except on low meadows should not precede grass or clover, but rather be grown on land that is intended to be devoted to a cleaning crop the next year. They can be sown earlier than barley, though often sown too late after the other grain crops have been attended to. We think they do not usually get a heavy enough seeding. 2½ bushels per acre is about the usual practice here. In England 3 to 4 bushels of seed are given. White oats do best on dry soils, black on moist. In Australia nearly all the hay is made from oats sown at the rate of 4 bushels per acre, the crop being cut and cured when the grain is in the milk. One seeding will give three or four successive cuttings of hay in that climate, where there is no frost to kill the roots in the winter season.

**SEEDING CLOVER.**—There is so much uncertainty nowadays about getting a successful stand for clover, owing to the variable weather in spring, that many farmers become discouraged and have abandoned the practice of having a clover ley as part of the usual rotation in farm crops. The old rule of sowing clover seed on fall wheat before the last snow of spring melts does not work well. The seed germinates too early, and the young plants get killed out by the spring frosts. We prefer to sow clover on barley, as is done in England. The plan adopted is to sow the clover seed immediately after the barley has been harrowed in, and the first rain will cover it to a sufficient depth to ensure ger-

mination, while it would fail to grow if covered to half an inch in depth. Where clover is to be sown on fall wheat, it would be well to sow only half the quantity about the middle of April, and the balance twenty days after, sowing the second seeding across the first to secure an even distribution of the seed.

### Cultivation and Preparation of Hemp.

We intended to give an editorial on this subject, and wrote to H. G. Joly, Esq., M.P., of Quebec, who has grown the article for the past few years, and takes a great interest in the advancement of Canadian agriculture, for information; and the reply is so good and practical, that we prefer to give it to our readers, in place of our own article on the subject:—

It is necessary that I should begin by stating, for those who may not be acquainted with the fact, that the male, or fecundating flower of the hemp, and the female, or seed-bearing flower, grow upon separate and distinct plants. So that hemp, unlike flax, whose every plant bears seed, is divided between female, or seed-bearing plants, and male plants, which do not bear seed, but are indispensable for the fecundation of the female plant.

I have never read nor heard that it was possible to distinguish the sex of the plant in the seed of hemp; male and female must, therefore, be sown and grown up together. There is nearly an equal quantity of each; if anything, the female slightly predominates. The male ripens about three weeks sooner than the female. It is known to be ripe when its stem and leaves assume a yellowish hue. That colour makes it easily distinguishable from the female, which, at that time, is still perfectly green.

There are no two countries—scarcely two localities in the same country—where hemp is treated identically in the same way; but I think all the various modes of treatment can be safely classified under one or another of the two following heads—the old-fashioned European, or the new-fashioned Kentucky mode.

The choice of the ground, the way to prepare it, the sowing of the seed, and the cultivation between seed time and maturity, are the same in both these modes of treatment, which, in fact, differ but on one point, the harvesting of the crop.

#### CHOICE AND PREPARATION OF THE GROUND.

I will quote some good authorities on that subject, whose words will carry much more weight than mine, merely stating that, from experience, I have found them to be perfectly correct:—

Mr. Bradford, of Kentucky, says:—

“The soil for hemp must be a strong, calcareous, deep, warm, loamy, and perfectly dry one, deeply and thoroughly prepared by ploughing and cross-ploughing, according to its previous condition, until a fine state of tilth is produced.”

Henry Clay says:—

“The lands which produce hemp best are those which are fresh, or which have lain some time in grass or clover. Manuring is not much practised yet (in Kentucky). Clover is used in lieu of it. Fall or winter ploughing is practised with advantage. It is indispensable in old meadows or old pasture grounds, intended for producing hemp.”

Sebastian Delamer says:—

“Hemp gives but a very unsatisfactory return on soils of too sandy or clayey a nature, on shallow soils, on those which are apt to be scorched by the sun, or are unable to receive their due share of atmospheric influence. Fresh broken lands, in the midst of woods and forests, are favourable to its growth.”

#### SOILING THE SEED.

We sow hemp, in the District of Quebec, about the first week in May. You can safely sow yours, in Upper Canada, at least a fortnight sooner. Sow it broadcast, about one bushel to the acre (for hemp grown for rope-making, which is the only kind, I think, can be advantageously raised, for the present, in Canada). Harrow before sowing, and harrow and cross harrow lightly after sowing.

Never sow seed older than the preceding summer's growth, for it is admitted by every one that hemp seed loses its vitality rapidly. The seed must be plump and full, and rather dark in colour. *Whitish and greenish seeds* are always bad.

Last year I imported seed from Piedmont, north of Italy. It came to an absurd price, but, with proper management, it ought to be got here for four or five dollars a bushel. This year I import Kentucky or Missouri seed (I think it is the same), for which I expect to pay, delivered in Quebec, from three to three dollars and a quarter per bushel. Mr. Wm. Evans, of the Agricultural Warehouse, Montreal, imports all my seed. From experiments made last year, I am, so far, inclined to give the preference to the Missouri seed over the Piedmontese. Some of the plants from the latter are, it is true, much taller than any produced by the former; but the crop yielded by the Missouri seed was a good average length, and much more equal in height and thickness than that from the Piedmontese seed.

There is no cultivation whatever required between seed-time and maturity; the rapid growth of hemp chokes up all weeds; in fact, it weeds itself.

#### HARVESTING.

I have now reached the point at which the European and Kentuckian modes of treating hemp begin to differ from one another—I mean the harvesting—and I will proceed to show in what that difference consists.

In Europe, when the male hemp has become ripe, it is pulled by hand, plant by plant, allowing the female plant to stand, in order that her seed may ripen, which takes about three weeks from the time the