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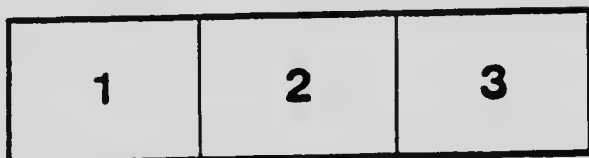
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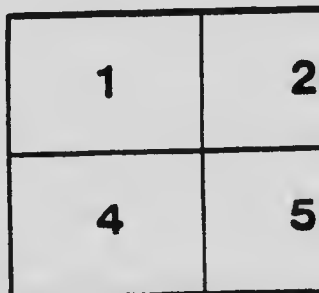
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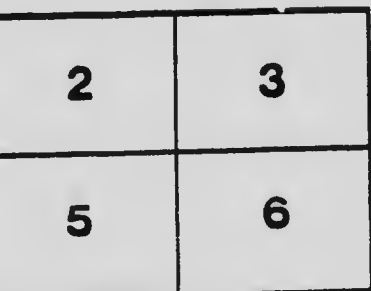
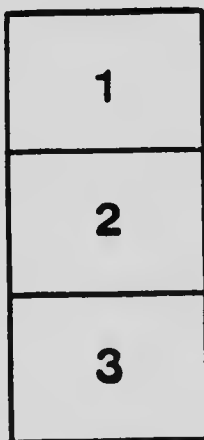
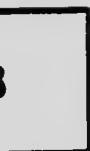
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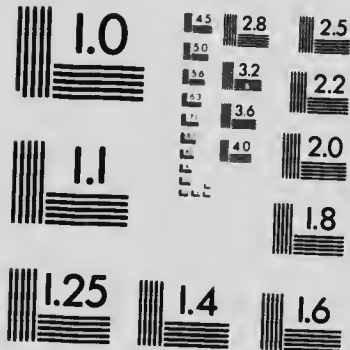
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# CORN FOR ENSILAGE

BY

J. H. GRISDALE, B.Agr.

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Corn for forage or ensilage corn can be grown to advantage in almost all parts of Canada at present occupied by farmers or stockmen. Results have not been satisfactory in every case where efforts have been made to grow it, but this has often been due to wrong cultural methods practised, or unsuitable varieties grown, rather than to adverse climatic peculiarities.

## REASONS FOR GROWING FORAGE CORN.

The reasons for growing or making an attempt to grow this forage crop wherever live stock are kept in any numbers are numerous and cogent. A few of them follow:—

1. As a plant capable of yielding a large amount of valuable forage under a great variety of soil and climatic conditions, corn is without an equal.

2. When properly preserved, whether as ensilage or dried, it can be used as material to render other less palatable roughage more acceptable to farm animals.

3. It is the best plant or crop for ensiling that can be grown to advantage in Canada. It is practically a perfect crop for this purpose, hence it helps to solve the great problem of how to furnish an abundant and cheap supply of succulent food for winter or summer feeding of dairy or beef cattle.

4. When properly grown and well preserved as ensilage, it is the equal of or superior to roots in feeding value and palatability. It can, however, generally speaking, be more cheaply grown and more easily preserved than roots.

5. The labour of growing an acre of corn is of a character much more agreeable to perform and much less arduous than that of growing an acre of roots of any description.

6. Corn being a cultivated or hoed crop, serves well to clean the land, that is, free it from weeds, so fitting it for grain growing, and putting it into shape to seed down to grass or hay.

7. Corn is a gross feeder and may be depended upon to make good use of an ever so abundant supply of plant food. It is, for this reason, particularly well adapted to occupy that place in the rotation where humifying vegetable matter and a fairly liberal supply of barnyard manure unite to supply large quantities of plant food suitable for root, leaf and stem growth rather than for seed production.

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## DOMINION EXPERIMENTAL FARMS.

J. H. GRISDALE, B.Agr.,  
Director.

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8. The growing of corn on a fair proportion of arable land on the farm will permit of keeping more cattle, and so increase the revenue as well as augment the manure supply, so essential to the maintenance of soil fertility.

9. Corn, when preserved as ensilage, can be stored much more cheaply in much less space than any other roughage. In addition, stored in this way it will keep indefinitely and is always ready to feed. Ten tons silage occupies no more space than one ton hay. One ton hay is worth about two and one-half tons silage.

10. In thirty-five years' experience in farming in the Ottawa valley, the writer has seen all kinds of grain crops utter failures; he has seen hay so light as not to pay for the making and roots and potatoes practically nil, but in all that time he has never seen a failure in the corn crop. There has always been a fairly profitable return from the fields in corn.

11. It makes it possible to greatly lessen the pasturage, consequently more land can be brought under cultivation.

12. At a moderate estimate, two cows can be kept on the same acreage and at the same cost when corn ensilage is properly grown and used as one on the same farm when cattle are fed on hay or other roughage.

### Where to Grow it.

Corn will grow in any kind of soil, provided always that there is good drainage. Under drainage is not absolutely necessary, although advisable here as with other farm crops. On low-lying or level lands, ditches should be in good working condition and water furrows kept open all summer. If a choice of land may be made, then warm-bottomed, light loamy soil may be expected to prove the most satisfactory under most weather conditions.

In the rotation, corn should follow clover hay, pasture or meadow. Corn might advantageously come after grain, or even follow a hoed crop, provided the land were very fertile or a very heavy dressing of manure were applied.

### Manurial Requirements.

The best fertilizing material for corn is undoubtedly good barnyard manure. A mixture of one part horse manure to three parts cattle manure applied at the rate of 12 or 15 tons per acre, may be expected to give very good results. Application might be made in the fall, winter or spring, or during the previous year. If ploughed in, only a shallow furrow should be turned.

### Preparation of the Soil.

Where clay land is to be used for corn, it is generally well to plough in the autumn, turning a well set-up, moderately deep furrow (5 to 7 inches deep), being careful, of course, to go no deeper than usual. If light land is to be used it is generally advisable to plough in the spring, turning a flat, shallow furrow (3 or 4 inches deep). In either case the manure may be ploughed in or worked in on the surface with the disc harrow.

The land should be worked down till a smooth, mellow, yet solid seed bed has been prepared. To get the land into such shape, it may be necessary to disc and roll several times as well as work with a smoothing harrow. In any case, no planting should be done until what might be called a perfect seed bed has been prepared. Success or failure will depend very largely upon this feature of thorough soil preparation before seeding.



### Special Preparation for Level or Clayey Lands.

Where either heavy clay land or level land not under-drained is to be used, it is not infrequently advisable to make special preparation by ploughing and working in a special way.

The land should be ploughed in nicely rounded ridges exactly 10 feet 6 inches from centre to centre. All necessary cultivation should be so done as to preserve the rounding surface of the ridges, and the dead furrows should be kept clean and should open into a well-kept ditch, thus insuring good drainage.

In planting, the first row should be run down the middle of the ridge and two others on the same ridge, one on each side 42 inches away. Thus the rows on the whole field will be uniformly 3 feet 6 inches apart and always clear of dead furrows.

### When to Sow.

Corn should be sown as early as weather and soil conditions permit. From the 15th to the end of May, according to district and season, is a very good rule. Very seldom will it do to sow later than June 5 or 6. Sow when soil is warm and dry.

### Methods of Seeding.

Corn for forage or ensilage may be planted in rows or hills. If planted in rows as usually advisable, the rows should be at least 42 inches apart. The plants should stand about 8 inches apart in the rows. In seeding, it would not be advisable to try to sow as sparsely as this. It is better to give a rather heavier seeding and then thin out to the desired thickness with a hoe when plants are 6 or 8 inches high.

If land intended for corn is very dirty, whether from the presence of weed seeds or couch grass, it is usually advisable to plant in hills. The hills should be at least three feet apart each way, and from three to five kernels should be planted in each hill.

### Suitable Varieties.

The varieties of corn to sow will depend upon the district where the seeding is to be done. For the Maritime Provinces, for those parts of Quebec north of Montreal and St. Hyacinthe and east of Three Rivers, and for northern Ontario, Manitoba, Saskatchewan, Alberta and British Columbia, the flint varieties should be grown most largely. Some of the best varieties are Longfellow, Compton's Early, Angel of Midnight and North Dakota White Flint. In these same districts a few of the dents may be expected to give good results, the best being White Cap Yellow Dent. In those parts of Ontario east and north of Toronto, as far as Muskoka, in the southern parts of Quebec and in the Eastern Townships, considerably larger varieties may be expected to give good results. As varieties suitable for said districts might be mentioned any of the flints, White Cap Yellow Dent, Leaming, Golden Glow and Wisconsin No. 7.

### Early Crop Treatment.

A few days after seeding, say the third or fourth day in warm weather, or the fourth or fifth day in cool weather, it is well to run over the field with a slant-tooth harrow, or lacking this, with a light smoothing harrow. This will break the crust, destroy any weeds and help warm the soil, thus encouraging growth of the corn. A few days after the corn is up, and when it can be distinctly seen in rows, it is often advisable to run the light smoothing harrow over it again. This time it had better be run across the rows. Subsequent cultivation will need to be done with special cultivators.

### Later Cultivation.

For working the land until the corn stands about three feet high in the rows or hills, the two-horse riding cultivator will give the best results. Use the one-horse walking cultivator for later work.

The cultivator should be run through the crop, shortly after any considerable rainfall or about once a week in dry weather. Work may be stopped usually when the corn is so high as to hide the horse and driver from view.

Very seldom, if ever, will it be found advisable to rib up the corn. Such treatment might occasionally be advisable in a wet season on very low-lying or heavy land, never on light soils.

### Hand Work.

A certain amount of hand hoeing is usually necessary. This should be done first when the corn is six or eight inches high. The thinning to eight inches apart in the rows should receive attention at this time. Plants should be cut clean out to prevent suckers coming on again. Later it will be found advisable to again go over the field and remove any further weeds that may have come up in the rows. When a field is particularly dirty it is advisable to sow in hills and the cultivator can then be worked both ways. The amount of hand hoeing will in this way be very much lessened.

### When to Harvest.

Corn will be ready to cut for forage or ensilaging when the grain or kernel is in the dough stage and has begun to glaze. If weather conditions are adverse, that is, cold and wet, it is often advisable to cut before this stage of maturity is reached, when for any reason the crop is late maturing. Frost does not spoil the crop for either forage or ensilage, but the feeding value is quite materially lessened if the leaves and stalks are badly frozen.

### SUMMARY.

1. Corn will grow on any well drained and well manured soil.
2. Thorough soil preparation is absolutely necessary.
3. Corn should not be sown closer than 3 feet apart in hills, or if in rows, 3½ feet apart, 8 inches between plants in the rows.
4. Sow varieties suitable for district. Varieties that will mature fairly well are necessary.
5. Keep field well cultivated and free from weeds.
6. Cut in dough stage.
7. Preserve in silo if possible.





