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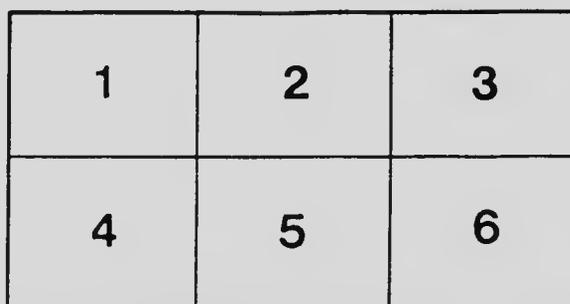
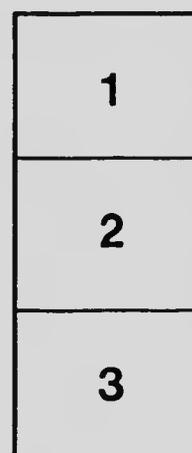
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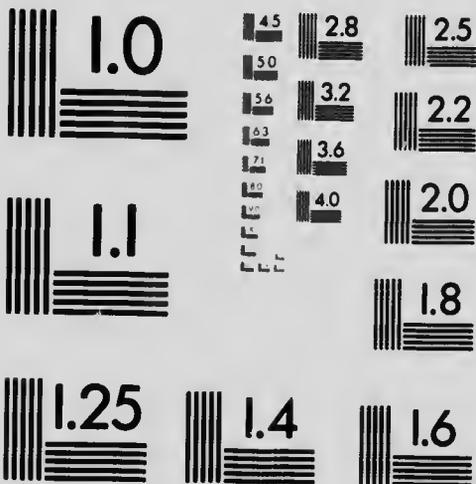
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DEPARTMENT OF AGRICULTURE OF THE PROVINCE OF QUEBEC  
Horticultural Service. Home Gardens Section.

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CIRCULAR No. 31

# GROWING OATS

in Quebec

— BY —

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Professor, Oka Agricultural Institute

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Oat is the crop most extensively grown in Quebec. Its acreage is only exceeded by that of hay.

One might however be permitted to state that 30 bushels per acre, which is the average yield in years of abundance, is not enough for our Province.

The following is a declaration made by Mr. Sydney Fisher, a former Minister of Agriculture in the federal government, at a meeting of provincial breeders, held in Montreal a few years ago:

"Most of the lands are of excellent quality and the soil is most suitable to oat crops, and nevertheless the crops are small because none is sown. All farms capable of producing should yield 40 to 60 bushels of oats every year; this is quite easy to do as the soil is rich and manures are plentiful. One should immediately set to work if our reputation as a producing Province is to be upheld."

Although an average yield of 60 bushels per acre would seem rather high for our Province, it is still true that with a better comprehension of our work and with good farming methods, our oat crops could be increased at least 10 bushels per acre.

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### Varieties

The following varieties were tested, last year, at the Oka Agricultural Institute, with the following results :

Varieties	Length of growth	Yield	Weight per bushel
Banner .....	92 days.....	70.7 bushels .....	28 lbs
Victory .....	90 " .....	64.8 " .....	28 "
O. A. C. 72 .....	95 " .....	53.7 " .....	30 "
Canadian .....	93 " .....	52. " .....	26 "
Joannette .....	83 " .....	82.4 " .....	28 "
Abundance .....	100 " .....	56.2 " .....	30 "
Ligowa .....	90 " .....	75. " .....	28 "
Daubency.....	82 " .....	74.2 " .....	32 "

The light weight of the grain is due to the exceptionally moist weather of the last season. The Daubency variety is particularly recommended for Northern sections on account of its early ripening. Other varieties recommended as having given satisfactory results from experiments carried at other experimental stations in this Province, are the Banner, Ligowa, Joannette (medium late) and O. A. C. 72 (late). Of all these varieties the Banner has proved most suitable to our soils and climates; it is hardy, productive, easily satisfied and yields a good firm straw.

### Soils

Good crops are obtained in all soils, providing they are not too dry and possess the essential fertilizing elements.

As in the case of wheat and barley, the best crops are harvested in a good loamy soil of coarse texture, sandy loam and sandy loam containing clay. Yellow soils on slopes and well manured, as well as heavy clay soils properly loosened are also liable to yield good crops. Heavier soils with a greater proportion of clay will yield heavier oats.

### Place in rotation

Oats should never, when possible, come after a previous oat crop. The best place is between a hoed crop, corn or potatoes. Here is a good 6 year rotation for oats:

1st year	Hoed crop	4th year	Timothy
2nd "	Oats	5th "	Pasture
3rd "	Clover and Timothy	6th "	Manured pasture

This rotation is advisable in a medium or heavy soil, naturally productive. In light soils, rather sandy, the following 4-year rotation is preferable :

1st year	Hoed crop	3rd year	Clover-Timothy
2nd "	Oats	4th "	Manured pasture

Oats seeded in a soil containing a too large quantity of nitrogen, after peas for instance, in a fertile soil are subject to lodging; wheat will grow better in such as oil.

### **Fertilizers**

Unless the soil was very poor, oats are not directly fertilized. When sown on a reclaimed pasture or after a hoed crop, they will take advantage of the remaining fertilizers spread the year before. In light, sandy soils, ordinarily poor in phosphoric acid, it might sometimes be advantageous to use basic slag at the rate of 300 to 400 lbs per acre; but these fertilizers should rather be tested on a small scale, before using them to any great extent. In field cultivation, in view of the actual high cost of commercial fertilizers, it seldom happens that the increase in crop obtained through their use pays for the expenditure and gives any profit.

This money could be used to better advantage in the putting up of liquid manure ditches intended to retain the fertilizing elements of barn-manure.

### **Preparation of the soil**

It is important that the soil keeps sufficiently moist, although perfectly drained. Oat crops do not care so much about the physical texture and the loosening of the soil as barley and wheat. Oat roots seem to thrive better in a compact soil than any other cereal roots.

A good supply of moisture is necessary for a good crop of oats, and this is obtained by a deep fall ploughing in heavy and loamy soils; the compactness of such soils being lessened by the disaggregating effects of fall and winter frosts, the water will have a deeper and greater penetration. Early cultivation will prevent its evaporation without being of any use to the roots.

In light soils not capable of retaining sufficient moisture, the only mean to have them retain a sufficient supply of water is to provide them with humus-forming materials such as barn and green manures: clover, alfalfa buckwheat ploughed under. To sum up, the soil destined, to oat crops must be prepared as follows:

(a) Deep fall ploughing in soils that are heavy or so; fall or spring ploughing in light soils.

(b) The soil shall be properly drained and moderately loose, although free from large lumps and weeds.

(c) A good supply of moisture guaranteed and kept by deep ploughing and a loose surface in heavy soils; by the incorporation of large quantities of humus in light soils.

### Seeding

(a) *Quality of seed.*—Good seed oat should have a smooth and glossy hull, should be of uniform size, rather plump, free from weeds and diseased kernels. It should be cleaned as many times as necessary to eliminate small oats; one should be particular in the choice of seeds for future crops just as one would be for brood animals.

(b) *Seeding time.*—Oats sown early in the spring will yield a better and more abundant crop than when sown later.

(c) *Rate of seeding.*—From 2 to 2½ bushels should be sown per acre. One should sow thinner in heavy soils properly pulverized than in light soils. When used as a cover-crop, 2 bushels of oats will be enough; sowing too thick, in such circumstances, would harm the uniform and vigorous growth of clover and Timothy....

A good rolling is given after seeding so as to pack the soil and promote germination; however this should not be done before the soil has warmed up. Should it happen to rain about that time, rolling will be delayed a few days.

Frequent rains will have the effect of crusting and packing the soil, the air will have more difficulty to penetrate and moisture will not be retained so well. A light harrowing, even when the stalks are 4 to 5 inches high, as we have stated for wheat, will overcome this trouble.

### **Harvesting**

The length of growth for oat crops may range from 90 to 105 days. When intended for food, oats should be harvested a few days before full ripeness; at this period of the growth the kernel and stalk are more nutritious. Seed oats should be harvested only when fully ripe.

Five or six days will allow oats to dry, providing stooks containing six to nine sheafs each are put up.

### **Yield**

Yields of 40 bushels per acre have been obtained in rather poor soils. On good hay soils, there is no reason why the yield should not be 50 to 60 bushels per acre. An average yield of 40 bushels should be the normal yield in this Province.

### **Conclusion**

In order to succeed with oat crops in this Province, the following facts should be kept in mind :

(a) More attention should be paid to the drainage of soils on which oats are grown. A good under-drainage is most desirable for this purpose ;

(b) Fall ploughings should be deeper in clay subsoils ;

(c) Seeding should be done as early as possible without, however, putting the seed into the mud ;

(d) A proper cropping system should be adopted, oats will thrive after a clover sod, manured pasture, hoed crop, but will yield a smaller crop after themselves or another cereal ;

(e) A variety that has proved successful should be adopted and selected seed of that variety used.

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