FARMING

In this department each week will be given general information to farmers and stockmen. No attempt will be made to criticize the work already being done by Canadian farmers; but an effort will be made to present to the farmers of the country summarized information contained in government reports, and the actual experiences of men and women who have achieved success in farming by following modern methods. Farmers who have found new "wrinkles" or have made a success in any special line of agriculture are invited to send short letters to this paper giving their experiences, or criticizing any of the information contained in these columns.

Vegetable Growing

CARROTS.

Carrots belong to the root crop of garden vegetables. They are grown to a great extent by all vegetable growers as a source of income during the winter months. They are easily grown, require very little cultivation, and usually bring in fair returns for the labor that is put into them. This crop, if grown in the kitchen garden, will provide a vegetable noted for its health-giving properties throughout the winter.

Soil.

This vegetable thrives in a good-well-drained mellow sandy loam. A sandy loam will produce the smoothest and straightest roots. Very heavy clay tends to make the roots rough and rather stumpy. The soil should be free from all weeds, for a good crop of weeds will very often smother a good crop of carrots if careful attention is not given. The soil should be of a good condition, and should have plenty of manure applied to it in the fall. Preceding this crop fresh manure applied in the early spring will usually give a crop of knotty carrots. Rotten manure will be found to be best for this crop on account of number of weed seeds usually found in fresh manure. It is claimed that liming a carrot ground has no effect on the crop whatever.

Planting.

Carrots are planted in rows on the level, usually two and a half feet apart for horse cultivation, and in a market or kitchen garden in rows 12 to 15 inches apart. An ordinary seed drill is used, and it is advisable to plant a few lettuce seeds as a row mark so that cultivation can commence before the carrot seed germinates. Plant as early in the spring as the soil permits for an early crop. Successive sowings may be made if desired every week or ten days until July 1st. Plants should be thinned to one inch in the row. For late or fall crop sow seed June 1st to 15th.

Cultivation.

This crop should be cultivated only sufficient to keep down the weeds and keep the soil fine and loose. This can be done by means of wheel hoe, hand hoe, and horse cultivator. The seed takes a long time to germinate, and the seedlings are very slender. For these reasons weeds should be kept removed from the rows until the crop is firmly established. The soil should be kept well over the top of root to prevent greening.

Harvesting.

Small carrots for the early market are usually thinned out of the patch that is grown for winter storing. They are pulled out by hand when they are fit for use (one inch in diameter). For the main crop they are usually pulled by hand and topped with a sharp knife. In large fields they are usually piled in the field and covered with the tops and hauled to the cellars when the whole field is topped. Harvesting of carrots is usually the last job done on a garden vegetable in the fall.

Marketing.

Early carrots are sold in bunches consisting of from five to eight clean, medium sized carrots, having the tops left on. As the season advances the number in the bunch increases. Winter carrots are sold in bushel boxes or ordinary bags.

Storing.

Carrots may be stored satisfactorily in bulk or pits or in cool cellars. No heat should reach them and the windows should be darkened.

Cauliflower.

This is another member of the cabbage family, and is probably the one which has the finest quality and also the one which requires the most careful attention during the growing season. Cauliflower is grown by all market gardeners, and is grown on large acreages for pickling factory purposes. Cauliflower, as a general rule, is a crop which gives excellent returns on the market. There are exceptions to this rule, but well bleached heads of fine quality and medium size find a ready sale on local markets. Cauliflower is harder to grow than cabbage, though many operations are similar.

Soil.

The soil for early cauliflower should be warm, full of humus and moisture. A soil which dries out quickly should not be used for growing this crop. There must be abundance of humus or vegetable matter in the soil, and this can be secured by large applications of manure.

Growing Young Plants.

Cauliflower plants are grown in practically the same way as cabbage plants, although they are more subject to damping off. For this reason it is advisable to sterilize the soil in which the young plant is to be grown. This is described in a previous paragraph. The seed should be sown in flats from the 1st of March to the 15th. To produce plants which will mature in August, seed is often sown in cold frames as son as spring opens up. The soil should have a large percentage of sand in it for best results. As a general rule the flat method of growing is considered the best. Solid beds cannot be controlled as easily and the plants seem to be more liable to damp off and draw.

The plants should be transplanted when the rough leaf appears and can be set in flats or in two-inch pots. If so desired, the plants can be transplanted twice. Some growers follow this rule and others are content with but one lifting. Certainly the stronger and larger the plant is when it is transplanted into the open, the earlier the crop and the better the quality of vegetable. For late crop, seed is sown outdoors as directed for cabbage, up to May 24th or June 15th.

Manuring.

As a general rule, it is best to manure the season previous for this crop, or at least cultivate the manure in the fall previous. While many follow the practice of spring and winter manuring on the cauliflower land, it is generally taken for granted that the application of fresh manure is not good practice. Nitrate of soda may be used to advantage during the early growth of this plant, but should not be applied after the plant commences to head up.

Planting in the Field.

The early crop of cauliflower is usually planted 18 inches apart in rows 30 to 36 inches apart. They should be planted fairly deep, but not to cover the leaves, and the dibber is the best tool to use. For the main crop the plants can be dibbled in two feet by three feet, or can be planted with a horse transplanter. In both cases as much soil as possible should be retained around the roots when planting. It is a good plan to water each hole before the plant is set, or at least have the earth around the roots thoroughly soaked.

Cultivation.

This crop should be cultivated sufficiently to keep the soil in a fine condition. As a general rule, the scuffler should be used every week or ten days and always to loosen up the soil after each rain. Cauliflower growers claim the more cultivation given, the better the crop will be. Hand hoeing will be necessary only once if the soil is fairly free from weeds.

Harvesting and Marketing.

When the plant starts to head up and when the head is not more than one and a half inches in diameter, the leaves should be so arranged as to keep the sun from getting in at the flower. In the first stages a leaf or two may be broken over the young head, but as the flower grows, it is advisable to gather the leaves in at the top and tie them with string or raffia. This should be done carefully so as to exclude all light or rain. As a general rule, a gardener will go over his patch of cauliflower twice or three times a week in order to ensure tieing up the plant at the proper stage of growth.

When the head is sufficiently large it should be cut away from the root and the leaves trimmed so that a fringe of leaves is left one and a half inches above the flower all the way round. All dead or withered leaves should be removed. Careful trimming always improves the appearance of the marketable head and ensures top price.

For the local markets the cauliflower is usually sold by the dozen heads, which are packed in bushel boxes or strawberry crates.

Cauliflower will not stand rough usage, and for this reason they must be very carefully packed if they are to be shipped any distance. Some growers cover the flower with white tissue paper and pack the heads in hay or excelsior in slat crates, or well ventilated barrels. It is imperative that there should be no rubbing of one head against another, for this will damage both and cause a rot to set in.

Storing.

Cauliflowers are not easily stored for any length of time. Some growers, however, annually store some in their cellars for Christmas trade. The plants which have but small heads are lifted roots and all and replanted in fine moist sand in a cool cellar. The heads will grow if the cellar is kept cool, but very often they commence to rot and the plants cannot be used.

Cauliflower can also be pitted in the same way as cabbage. They should not be piled in too large quantities, for the cauliflower will start to heat in storage more readily than cabbage. Very little dirt should be used as a covering at the start, barely enough to keep out the frost. More should be added as the colder weather advances.

Development of Water Power

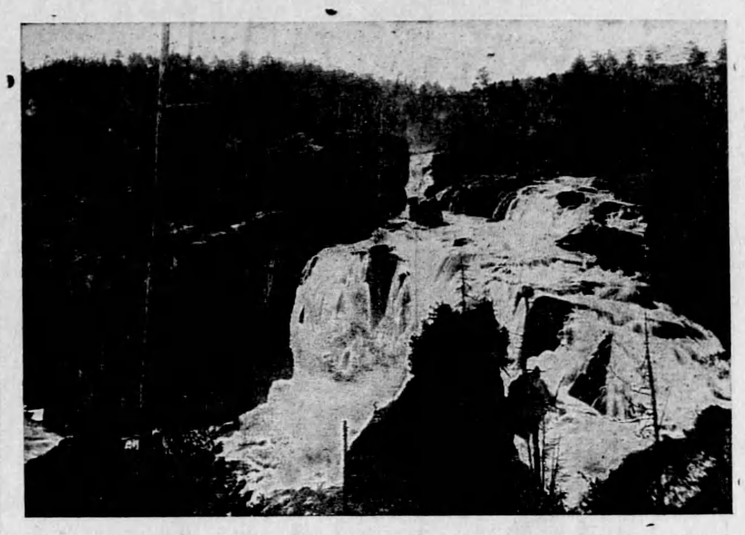
Great Activity in Canada in Developing Hydro-Electric Energy.

The utilization of water-power in Canada is advancing even more rapidly than heretofore. During 1919, the installation of plants with a total of 64,400 h.p. was completed in various portions of the Dominion; the developments at present under construction or in process of installation aggregate over 370,000 h.p. Other projects definitely contemplated for the near future will add 750,000 h.p.

Among the more notable developments are the 200,000 Chippewa plant of the Ontario Hydro-Electric Power Commission, now under construction, to utilize the full head of Niagara power, and the impetus given by the Quebec Government to the conservation of water by storage. Much activity is also to be noted in the Maritime provinces.

This rapid progress, which represents industrial growth of the most valuable character, should be encouraged, yet most carefully guided. In the United States electrical installations have doubled every five years, while in Canada, the present hydro-electric installation is about ten times meet future demands are indicated in the following table of the estimated developed and undeveloped water power in Canada. An attempt has been made to separate available sites within that of 1900. The present hydraulic installation in the Dominion is nearly 2,400,000 h.p. If we assume for this country only one-half the rate of increase for the United States, a total of 4,800,000 h.p. would be developed in ten years and 9,600,000 h.p. in twenty years, if available.

The resources actually available to the populated areas from those farther north.



MISSISSAGI RIVER, ONT., AUBREY FALL AND RAPIDS, FALL OF 117 FT.

Available Water Powers.

Province. or District.	Estimated Total Possible h.p.†	Available in Populated Area h.p.*
Maritime Provinces	403,000	354,300
Quebec	6,000,000	2,600,000
Ontario	5,800,000	2,800,000
Prairie Provinces	3,479,000	653,860
British Columbia	3,000,000	990,000
Yukon and Territories	150,000	‡
Total	18,832,000	7,398,160

*Minimum all year power, with possible regulated flow where investigated. Figures for some of the rivers included may vary as additional information is secured from future detailed surveys, flow records and conservation storage investigations.

†Not including Ungava. 5,000,000 h.p. south of the 50th parallel.

‡Available possibilities not definitely known.

ELK FALL, CAMPBELL RIVER, VANCOUVER ISLAND.

POULTRY

REMOVING THE MALE BIRD.

The Canadian Produce Association desires to bring to the attention of all poultry producers the advisability and necessity of removing male birds from the flock immediately the breeding season is closed, and the Federal Department of Agriculture will assist the Association by the publication and widest distribution of timely press notices and articles.

Many hundreds of thousands of dollars are lost annually in Canada through deterioration in fertile eggs during the hot weather. This loss Canada cannot afford, nor can the producer. Many producers may in previous seasons have been able to dispose of all their eggs—good and bad—but the time is fast approaching when all buyers will handle on a loss off basis, and first handlers and producers will be called upon to meet the bad egg loss.

The male bird is not a necessary factor in egg production, he is needed to reproduce the species but that work may be and should be confined to two or three months in the spring, after which it will be to the advantage of all to "Swat the Rooster".

A storage battery will run down quickly if the terminals occasionally touch the cover of the steel retaining box.

It is well to inclose the electric wires at the points where they are held to the iron frame with rubber tubing. The tubing may be slit to admit the wire and then be clamped to the frame.

To guard against gritty substances, dust the reflectors carefully with a small feather duster or with soft cotton. Wet a piece of absorbent cotton with grain alcohol, if such can be procured, and wipe the reflector from the bulb socket outward and dry with a clean piece of dry cotton.

WHAT'S THIS?

Senator Arthur Capper, in an article states that the average buying power in the April issue of the Journal of the American Bankers' Association, of the United States farmer has increased during the last four years from $1,600 to $3,400 per year, an advance of over 100 per cent., whereas the average buying power of a city man still remains approximately at $900 per year.

NOT JUST THE SAME.

"Do you find married life the grand, sweet song you expected?"

"Well, it is at least a grand refrain."

"Refrain?"

"Yes; I'm called upon to refrain from smoking, refrain from cards, refrain from going to the lodge, and when there isn't anything in particular to refrain from, just to refrain."

BIG POTATO CROP WOULD PAY WELL

This is Indicated by the Price of Seed.

In the fact that seed potatoes are selling at around $5.25 per bag throughout Ontario, is an indication that production of a much greater crop this year would result in great benefit to both producer and consumer. The former could afford to take a slightly lower price while the latter would certainly welcome the same. That Ontario farmers would run little risk of flooding the market is indicated in the interest being aroused by the superior quality that has begun to show in the potato crop of the province within the past few years.

There was a time, not many years ago, when the potato grower who received 40 cents per bushel for his crop was well satisfied with his returns, provided he could grow something in the neighborhood of 200 bushels to the acre, but even where the yield has kept up to that level profitable production at the price mentioned is an impossibility nowadays. Within the last 10 years insects and fungous diseases have increased very considerably, necessitating the taking of special precautions to combat these pests, while more lately the labor cost has proved the greatest item of expense to the grower. In 1915 the record of cost of producing potatoes at several of the Dominion experimental farms showed that the entire cost of growing and marketing a 300-bushel crop was about $80.58 per acre. This was in a year when the price of seed was low—and it must be admitted that 300 bushels per acre is well above the average farm yield of potatoes. In 1917, when the cost of seed was about what it is this year, $60 per acre was added to the cost of production, on account of the seed item. The grower who this past year sold his potatoes in the general market can estimate from the above figures what chance of profit he has in purchasing seed at existing prices if his crop proves a success. If he can reasonably expect to grow 300 bushels to the acre he can look forward to a nice cash return at the price for commercial potatoes that exist today.

Labor Costs Advance.

Unfortunately for the grower, however, there is a great advance in labor costs to be figured in with the expenses of production. In fact, the main aim of the potato grower these days should be to reduce the labor cost, and if he is looking for any success in this direction he must place his dependence on the employment of the latest thing in the way of potato-growing machinery. In these times, the only operations in connection with potato growing that can be done to good advantage by hand are the cutting of the seed and the picking up of the potatoes; even the latter can be dispensed with to advantage in big operations.

A good, up-to-date machine will not only save time in planting potatoes, but will do more even and thorough work than the best man, while the digging machine specially constructed for this purpose can be depended on to bring up every worth-while tuber and lay it on top of the ground—clean and less bruised than if the work were done by a man with either single plow, double moldboard plow or fork. The machine digger will work to best advantage where a machine has been used in planting as, with the machine the depth of planting is more evenly maintained than is the case where the seed is planted in a furrow opened with the plow.

Prevent Diseases.

An essential to success in potato-growing is that the seed be free of disease and, as certain diseases can be controlled only by disinfecting the seed tubers, it is the part of wisdom to not neglect this practice whenever seed is being prepared for planting. Formaldehyde and corrosive sublimate are most commonly used for disinfecting seed tubers. They are generally considered about equally effective against common scab, but corrosive sublimate is more effective against rhizoctonia, the fungus that is responsible for russet scab, rosette and dry stem rot.

The solutions used for disinfecting seed tubers are as follows:

Formaldehyde solution — Formaldehyde (40 per cent. solution) 1 pint, water 30 gallons.

Soak the tubers in this solution for two hours. The solution may be used repeatedly, 30 gallons will treat about 30 bushels.

Corrosive sublimate (poison)—Corrosive sublimate 4 ozs., water 30 gallons.

Dissolve the corrosive sublimate in 5 gallons of water, then add 25 gallons of water. Soak the tubers an hour and a half. This solution weakens after five or six lots of seed and should be renewed. Do not use metal containers.

The enjoyment of beautiful flowers is common to all the inhabitants of Japan. Even the humble laborer is a customer at the gardens where flowers are kept for sale.

Some forty miles from Barcelona there is an actual mountain of very pure salt, which is hewn out in the open air, like stone from a quarry.

PRESENT FACTS ON SHOE COSTS

Canadian Factories Pay Six Times More for Raw Materials and Profits Are Less.

The Canadian Reconstruction Association has just completed a survey of the boot and shoe manufacturing industry in Canada. Among the findings of its investigation are the following:

1. From an industry represented in 1667 by twenty shoemakers operating on the handicraft principle, without machinery, boot and shoe manufacturing has developed until to-day there are in Canada about 160 factories, representing an investment of close to $35,000,000, giving employment to more than 14,000 persons, paying more than $10,000,000 annually in wages, and buying materials to the value of more than $27,000,000 annually, much of which is produced by other Canadian industries employing Canadian labor.

2. The net factory selling value of leather boots and shoes produced in Canada annually is now about $50,000,000.

3. Canadian boot and shoe manufacturers make approximately 95 per cent. of all the boots and shoes worn in Canada and in addition have developed an export trade which last year exceeded the value of imports.

4. The production of the average shoe factory in the United States is double that of the average shoe factory in Canada, and one company in the United States manufactures as many leather boots and shoes as all the Canadian plants combined.

5. Boot and shoe factories in the United States could manufacture in about 17 days as many boots and shoes as all the Canadian factories make in a year, and in 18 or 19 days they could make all the leather footwear requirements of the Canadian population.

6. The advance in the prices of boots and shoes in Canada has not been as great as the increase in the general level of prices. Indeed, it has been less on a percentage basis that the advance in the cost of materials entering into the production of such footwear.

7. Three square feet of leather are needed for the manufacture of a single pair of women's boots. Fine glazed kid now costs the Canadian manufacturer between $1.75 and $2 per foot, as compared with 26 cents per foot in 1914. The leather alone for the uppers of a pair of fine women's shoes now costs between $5.25 and $6. Besides, all other materials used, including sole leather, welting, linings, etc., now cost the manufacturer from two to six times what they cost in 1914.

8. With one exception there have been no important combinations in the Canadian boot and shoe industry, and the keenest kind of competition prevails.

9. There is not a single millionaire in the shoe manufacturing industry in Canada.

10. Profits on turnover run from almost zero to a maximum of about ten per cent. Few concerns have been making more than five per cent. on their turnover. Where larger profits have been made during the war they have resulted from increased business rather than from a higher percentage of profit on each unit of output. With possibly one exception, no Canadian boot and shoe manufacturer made a net profit of more than 16 cents per pair on army boots, and the average did not exceed 10 cents per pair. Many of the manufacturers actually lost money. In 1914, average net profits in the industry were not more than 2.65 per cent. on turnover, or 2.91 per cent. on capital invested. The average profit on turnover for 1918, as shown by careful analysis of the earnings of a number of representative firms, was only 5.37 per cent. on turnover and less than 7½ per cent. on capital invested.

11. So keen has been the competition in boot and shoe manufacturing in Canada that a carefully prepared list contains the names of considerably more than 100 firms which have closed their doors during the past thirty years by reason of financial difficulties. The records of a single Canadian sole leather factory show 58 insolvent Canadian boot and shoe manufacturing establishments in which the leather company has been interested as a creditor.

12. With a few exceptions, a manufacturer's net profit on a pair of boots selling wholesale at $10 and retailing at perhaps $15, is less than 55 cents. On lower priced footwear, the profit is proportionately less, and one factory making staple lines averaged a profit in 1918 of less than 9 cents per pair on a turnover of 50,000 pairs.

THE MOTORCYCLE.

"A motorcycle is a bicycle with a pandemonium attachment, designed for the especial use of mechanical geniuses, daredevils and lunatics. A good machine can be purchased for $150. However, if the devotee does not possess $150, he can get almost as good results by drinking a little lubricating oil, inhaling a vacuum cleaner, and setting off two bushels of firecrackers between his legs."

Gas light was first used in 1798.