

## Soils & Crops

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### KEEPING YOUNG CHICKS GROWING.

A quick maturity means heavy laying. The pullet that drags along, gaining slowly, very seldom is able to gather enough energy to make a record. While a chick properly hatched has a better chance for maturing rapidly, it is no guarantee unless subsequent feed and care are right. Stunted chicks will not respond even to the best of feed.

The diet of the chick is practically that of the hen. The feed that makes eggs will likewise grow bone, muscle and feathers. The food must consist largely of nitrogenous material, balanced with sufficient carbonaceous matter to offset any ill effect that might result from too much nitrogen. To have early laying pullets in the fall, and vigorous layers all winter, the chickens must be kept growing. If they are in good health they will have a growing appetite, and this must be supplied with a liberal quantity of the best quality of food in order that they may store up energy.

There is nothing better for growing chickens than a good grass range. Here the youngsters not only gather green food and insects, but they are continually exercising. At night their crops are as hard as bullets, and the good night's rest fits them for renewed foraging the next day.

But the range must have some shade. There must be cool spots where the youngsters can rest on hot summer days. During the cool morning hours you will notice the chicks working on the west side of the tree, and as the afternoon sun strikes under the branches the birds will be found on the east side, and far enough away so they are out of the sun. They follow the shade.

Berry bushes make good shade, and also protect the chicks from hawks and crows. By all means use growing plants for shade, because they give off moisture which makes the spot cooler than shade obtained in any other way. There is nothing better than a range in a corn-field or a large patch of sunflowers. Here shade will be found, and there will be plenty of young tender green shoots and fat, delicious bugs and worms. Where natural shade is lacking artificial shelters must be provided.

On the ordinary farm the growing chick is too often left to hustle for itself. This is not entirely a bad move, since there is so much grain, etc., about. But the demand by the developing bodies of chicks are great; the materials the chicks have gathered to meet these demands are diverse. The chick in ten weeks shows a gain of 1,500 per cent., and duck-

lings may add from 50 to 100 per cent. to their weight weekly. This growth is not merely of flesh, fat or soft tissue, for the extensive, strong, bony framework must be formed with equal rapidity. Ten per cent. of the body of an average fowl is made up of mineral bone elements or "ash"; and the percentage must be much greater in lean, immature birds. Hence you will see that grain is not enough for chicks. The ordinary grains will not supply this ash in the proportion needed. Corn contains only 1 1/2 per cent. of ash; wheat less than 2 per cent.; wheat screenings or oats, 3 per cent.; middlings, 3.1-3 per cent.; and bran (the richest in this element of grains) carries less than 6 per cent.

To obtain the needed amount of ash we must either force the fowl to eat large quantities of food, or some food richer in mineral elements than grains must be provided. If the bone-making material is not abundant, the bones of the bird will be large, soft and weak, resulting in lameness or deformity; or the bird will make slow and unsatisfactory growth.

Experiments made at the New York Station show plainly the need of plenty of ash for growing fowls. These tests indicate that tiny chicks can make good use of such uncommon elements as sand and rock phosphate. Those elements, however, can be more easily obtained, in better combination and in more palatable form in materials already recommended by our most successful feeders—fine raw or cooked bone. Every grower of chicks should use constantly some animal meal, green vegetables, clover or alfalfa, and good, clean grit.

Weaklings should be removed from the flock whenever found. Very little is gained in trying to save them, for they seldom become vigorous. They are an easy prey for parasites and readily contract disease. Rigid selection for vigor should be practiced throughout the life of the chicks, so that no weak or undesirable specimens will find their way to the breeding-pen. Weak chicks grow into poor breeders.

Early roosting should be encouraged, along with plenty of exercise. Roosts should be placed not more than a foot above the floor when the chicks are about a month old. Early roosting will prevent crowding, overheating and smothering at night.

Cockerels should be separated from pullets about the time the cockerels begin nagging. This gives both lots more room and the cockerels may be fed more heavily. When possible, the chicks should be ground according to age. Above all, the coops and houses must be kept clean and well disinfected, for no chicks will thrive if tormented by vermin.

## The British Empire Exhibition

The Experimental Farms Branch of the Dominion Department of Agriculture will be represented at the British Empire Exhibition by a model Experimental farm surrounded by typical scenic work. The space occupied will be 40 by 60 feet. The model will be to scale, and complete as to buildings, fences, roads, shelter belts, rotation fields, experimental plots, live stock, and horticultural specimens. A display will be made of sheaves of grains, forage crops, fruits, etc., originated, improved or introduced by the Branch. Transparencies, pictorial and otherwise, will give further information as to the services rendered, and a booklet will be distributed for the information of prospective settlers and others.

The exhibit to be made by the Dominion Live Stock Branch will occupy a space of 128 feet long by eight feet deep. Canadian bacon will be featured in an attractive manner in co-operation with the Canadian Packers, who will keep the exhibit supplied with this commodity.

The stocker and feeder business will be presented by means of scenes showing (1) Cattle on Canadian summer pastures; (2) Cattle on the western range in winter; and (3) Canadian cattle after their transfer to British pastures.

Displays will be made of Canadian poultry, eggs and wool. Canadian egg standards will be depicted, as well as the Canadian system of recording the performance of poultry. The wool and textile exhibit will include an exhibit of wool from the Prince of Wales' ranch in the Province of Alberta. Numerous transparencies will illustrate Canadian farm scenes and typical specimens of live stock.

The Seed Branch of the Department of Agriculture has collected an exhibit of seed from commercial sources and plant breeders to exhibit at the British Empire Exhibition for the purpose of showing this branch of Canadian industry and stimulating trade in the export of hardy, northern-grown seed within the Empire and to Northern European countries.

There have been secured for this exhibit the prize winning samples from national and international seed shows, including the championship wheat, oats and peas at the Chicago International, which were all Can-

## The Rainbow-Flowered Iris

The refined and delicate beauty of the modern Iris has been aptly compared to that of the sky and sea. It is well named the "rainbow flower," for its various hues, less substantial than the rose, for example, have the limpid quality of a perfect June day, and flush and fade like the rainbow itself.

To garden lovers this flower makes a strong appeal. To-day it is held in much higher esteem than was the case twenty-five or thirty years ago, due in no small degree to the introduction of varieties that are far more attractive than the old blue flag and other mediocre kinds in grandmother's garden.

It is just as easy to grow a good Iris as an ordinary one, so we should harden our hearts and dismiss with a blessing some of the older varieties that have done good service in the past but are now far eclipsed.

The tall, bearded irises, to which this article refers, are among the most satisfactory of garden plants. First, the iris is a plant of unusual distinction both as regards flower and foliage. It flowers abundantly, and in all hues and tones of lavender, mauve and purple. Then there are white, cream, pale yellow, deep yellow, and combinations of these.

Second: The irises of this type are entirely hardy, need no winter protection, and increase rapidly. This iris is not exacting as to soil or location. It will thrive anywhere but in sour, wet, low-lying, shady spots. It responds best, however, on the upper level, where drainage is sharp, and on soil of light to medium texture. Where well grown, it is not likely to

be seriously affected either by disease or insects.

That these are strong qualifications, all will admit, and justify our advocating a more general use in garden planting.

The best time to plant the iris is either in the early spring or in the month of August. If it is simply a question of dividing old clumps, or if the source of supply of new plants is near at hand, planting may be undertaken at any time after the flowering season is over.

In planting, the rhizomes should be set near the surface. The fibrous roots attached to the rhizome should extend down into the soil on all sides. A good practice is to mound up the soil in the centre of the hole and set the rhizomes on this.

The iris may be given a place in any perennial border, whether long or short, wide or narrow. If the space will permit, it is a good plan to plant medium sized divisions of one variety two feet apart in groups of three to five plants. Repeated at regular intervals in a long border, the plants form accent points or centres of attraction because of their marked divergence from other types. A fine effect is often produced by planting with a background of flowering shrubs such as lilac and spirea. The well-known variety *pallida Dalmatica*, a clear lavender with flower stems four feet high, bearing from three to five gigantic flowers, combined with the wisteria vine or the apricot-flowered Oriental poppy, Mrs. Perry, will produce a color combination worth a long trip to see.—The Ontario Horticultural Association.

### One Hour's Carelessness.

"I don't think much of these colony brooders," said Careless John, yawning wearily. "I tried them out last summer and it didn't seem to me that they saved any work to speak of. Just kept me running down to the corn-field seeing if things were all right. And, at the end of the season, I didn't have any more chickens that I had when I let the hens take care of 'em!"

The county representative had been trying to impress on John's mind the importance of brooders, and the profit in poultry. But John was not interested. First of all, he didn't like the bother of so many hens all summer with their broods of little chicks, and when the agent had suggested the use of the colony-house system, John said of the colony house was a joke; he "knew all about them" because he had failed to make them go, and according to his logic, anything that wouldn't work itself into money for him, wasn't "worth its salt."

He yawned again and stretched his arms slowly. "Why, I had two of them colony houses last year, neighbor, and put them down in the corn-field, just as the Agricultural College fellow told me. Well, the chicks, 300 to each house, were four weeks old when I moved them down there, along about the first of May.

"They got along fine for a few days, and then a cold night came along, just as sudden as lightning. The next morning when I went down there, I found that all the chicks had crowded into one of the colony-house brooders. I thought a weasel had been busy when I first went in.

"There was a big pile of dead chicks. A lot were standing around humped up and wet as the chickens. I reckon they just sweat themselves to death that night. Anyhow, there were only about 150 chicks left out of the 600. So you can't talk colony houses to me, neighbor!"

The county representative tried to explain to John that the trouble was not due to the colony houses, but to the fact that the chicks had all stampeded into one house and smothered themselves to death later in the night. Six hundred chicks will generate a tremendous amount of heat when crowded into one little colony house.

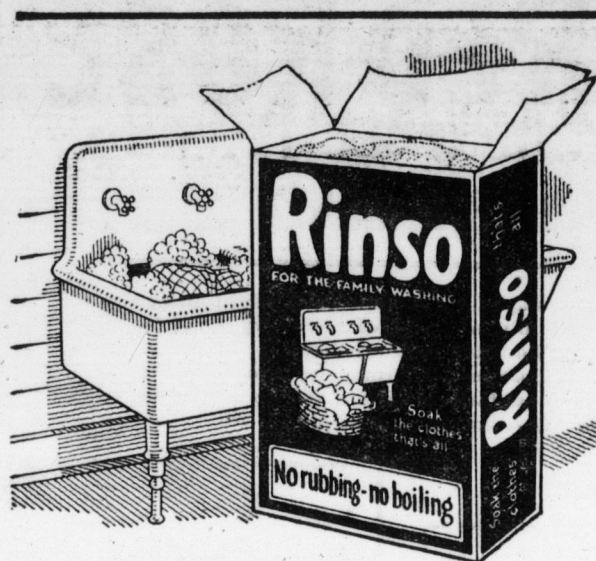
Had Careless John taken the trouble to move his colony houses some distance apart, he would not have lost his chicks. It is hen sense for all to crowd into the smaller of two brooders, if two are placed close together. They all flock together in the smaller brooder, every time. If Careless John had gone down to the corn-field that cold May night, he would have saved his flock even then, but John wanted to sit down that evening and enjoy himself. His hour's rest cost him a season's profits.

### Some Recommended Roses.

There are wide differences with regard to the susceptibility to disease between the various modern roses. Bulletin 85 of the Experimental Farms, entitled "Hardy Roses," names twenty varieties of hybrid teas that are regarded as fairly resistant to black spot and mildew. Five of these are Avoca, red; Dean Hole, pink; Etiole de France, red; Mrs. Harold Brockbank, cream; Lady Ursula, pink. In the climbing varieties American Pillar is resistant, and Excelsa might take the place of the old Crimson Rambler which is a susceptible variety. Good picks are Dorothy Perkins and Tausendschon.

The difference between men and motors is that usually motors knock when they go uphill while men generally knock when they are going down hill.

ISSUE No. 16—24.



## Soaking takes the place of rubbing—

JUST by soaking the clothes in the suds of this new soap, dirt is gently loosened and dissolved.

Even the dirt that is ground in at neckbands and cuff-edges yields to a light rubbing with dry Rinso. Not a thread is weakened. The mild Rinso suds work thoroughly through and through the clothes without injury to a single fabric.

Rinso is made by the makers of Lux. For the family wash it is as wonderful as Lux is for fine things.

All grocers and department stores sell Rinso.

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### How Cracked Eggs May Be Hatched.

I often send away for fine eggs for hatching, paying a good price for them. In spite of the fact that they are carefully packed, when they reach me some of them will be cracked. For a time my loss in this way was heavy, until I decided upon this plan to save them.

I examine each cracked egg carefully to see whether the skin under the shell is broken. If it is, the egg is worthless, but if the skin is unbroken I cover the crack with a thin coating of glue, and allow it to dry before placing the egg in the incubator. I find that an egg treated in this way will hatch as well as one not cracked. I have hatched eggs having spider-web cracks as large as a quarter—in several instances when the shell was slightly dented in by blue-birds—by treating them with glue before placing the egg in the incubator. For a number of years I have not lost a fertile egg on account of a crack, unless the skin under the shell was broken, or the crack covered more than half the egg.—M. J. Atkinson.

### Hot Water Bath.

Hot water is a good medicine for sick cabbage as determined by college pathologists, who have discovered a new cure for black leg, an infectious disease which has caused a loss of thousands of dollars to cabbage producers.

The corrosive sublimate treatment which has been used for black rot and recommended for black leg is not altogether satisfactory, so the experts say. Now they have found that seed immersed for thirty minutes in water kept at 122 degrees is free from both

infections, but the hot water also reduces the germination. Plump and healthy seed stand the treatment much better than poor seed and there is no doubt that the advantages gained in freeing the seed from the disease overbalances the reduced germination.

### HOGS

We are just glad that hogs like water—fresh, clean, pure water—in abundance. If they did not like water, they might then be demanding a substitute that is more costly to provide. The good hog man sees that every hog on his premises has every ounce of this liquid elixir of life that is needed. He does not stint where the cost is so little and the results are so certain.

The pig drinks more pounds than he eats. Piggies' all important body when very young may carry as high as 80 per cent. of water, and from this down to as low as 35 per cent. when he is well fitted for the shambles. See, therefore, that he has plenty of plenty of liquid refreshments that are not too cold in winter, nor too hot in summer.

Raw linseed oil, applied once or twice daily, removes warts or corns in a few days. With it we removed warts from a cow's teats, a patch of warts from a cow's nose, warts from our hands, a corn from the end of my finger, and those terribly painful "soft" corns between toes. It is good for chapped hands and burns. To prevent staining clothing, wrap parts to which it is applied.—L. L. L.

Legume hay, tankage, or dairy products fed to the sow will make the pig crop strong and increase the percentage of those maturing.

When you want Syrup, always specify the

## QUEBEC'S MAPLE PRODUCTS

Quebec is instituting a vigorous campaign at the present time to increase the province's output of maple products, and it is an effort which should have the widest support. The maple products industry is peculiarly a Quebec agricultural activity bound up in a very intimate manner with the history, the romance and the progress of rural Quebec. The industry belongs, in an especial manner, to the old French province, since it has always been nurtured there and arrived at a greater and more progressive state of development than elsewhere on the limited area of the American continent adapted to the pursuit. The annual production of Canada is about equal to that of the United States, and of the Canadian production eighty-five per cent. is attributable to the Province of Quebec, which gives to this area a supremacy in this regard.

It is only of comparatively recent years that really serious attention has been paid to the production of maple products as a profitable and economic industry in Quebec. Under government encouragement and a system of educational campaigns in the country districts, old and obsolete methods of collection and manufacture have been abolished, resulting in a better and greater production and the placing of the industry on a staple and firm footing. Yet the era of the maple tree as a commercial factor has barely commenced and more and greater things are expected of it in the future.

### STATISTICS OF PRODUCTION.

The first statistics of maple sugar production in Canada go back to 1851. Between that date and 1861 the annual production ranged around 13,500,000 pounds; from 1861 to 1871 production increased to an average of about 17,500,000 pounds; from 1871 to 1881 the average was 19,000,000 pounds; and from 1881 to 1890, 22,500,000 pounds. After that date there was a decline, the year 1901 recording 21,200,000 pounds, and ten years later, in 1911, the production being 20,000,000 pounds.

The war had the effect of increasing the output of maple sugar enormously. Probably for the first time this delicacy was carried overseas to any extent, and it resulted in an extraordinary demand with high prices. This resulted in a stimulation of output which was felt for some time after the war, the production in 1920, for instance, exceeding 31,000,000 pounds. These figures refer to the whole of Canada.

Since the war, when the possibilities of developing a profitable export trade were first evidenced, the Quebec Government has devoted considerable attention to the modernization and general promotion of the industry. The Pure Maple Sugar & Syrup Co-operative Agricultural Society exists for the protection of the industry and the assistance of those engaged in it. There is also an Act of Parliament which makes it an offence to offer for sale any food under the name "maple" which is not a pure product of the maple tree.

A laboratory and inspectors, provided by the Government, are at the service of manufacturers for the examination and inspection of maple products, and it is now practically impossible to export foodstuffs in this line which do not come up to legal requirements. The province has several inspectors who devote their time to visiting the sugar farms and assisting the farmers in every possible way with expert advice. Demonstrations are held annually throughout the areas of the industry.

### A REAL PROVINCIAL ASSET.

The result of this has been that the maple sugar industry is on its way to becoming a real provincial asset and a profitable supplementary source of revenue to the farmer with a grove of maple trees. The production of the Province of Quebec in 1923 was 1,250,250 gallons of maple syrup and 8,215,475 pounds of maple sugar, which, as one gallon of syrup will make ten pounds of sugar, is equal to a sugar production of 20,717,975 pounds.

Since 1919 Canada's exports of maple products have been as follows: Maple syrup, 1919, 9,550 gallons worth \$12,202; 1920, 9,270 gallons worth \$20,669; 1921, 11,254 gallons worth \$31,767; 1922, 3,659 gallons worth \$9,152; and 1923, 5,885 gallons worth \$11,954. Maple sugar, 1919, 4,705,565 pounds worth \$1,062,895; 1920, 4,995,124 pounds worth \$1,121,957; 1921, 7,999,233 pounds worth \$1,962,258; 1922, 2,092,716 pounds worth \$164,589; and 1923, 2,738,227 pounds worth \$374,457. The total value of maple products exports for the five years was respectively: 1919, \$1,075,097; 1920, \$1,142,696; 1921, \$1,924,025; 1922, \$172,641; and 1923, \$386,411.

The combined factors of an unpropitious season, low prices and a declining interest in the overseas market, have caused the falling off in the volume of exports in the past few years. A pinnacle both in volume and value was reached in 1921, and can be attained again, which is the effort of the Quebec Government. Its mark is, in fact, away and beyond this, for though there are 60,000 farmers engaged in the manufacture of maple products in Quebec it is estimated that one-half of the available sugar maples are made of productive.