Address communications to Agronomist, 73 Adelaide St. West, Toronto

THE FIRST STEP TOWARDS THE CROP OF 1924.

It may appear to be a little too early to begin thinking of next year's honey crop but the successful beekeeper knows that the success of next year's crop depends upon the preparations made for it and the time they are made. A successful season depends to a large extent upon good wintering. Good wintering depends upon three things, namely: colonies well filled with young bees, an abundance of wholesome stores, and adequate protection from the varying outside temperatures during the winter and early spring.

The first thing then is to get colonies well filled with young bees and to get them before the winter sets in. This means that we must have the bees produced between the months of July and October and in order to do this we must have a prolific queen in the hive during the months of August and September. The first step, therefore, in producing a crop of honey in 1924 is to see that every colony is headed with a good, prolific queen during the latter part of July or the first week in August. A good second year queen will often produce the required number of bees in the fall but she is very likely to get lost during the winter or fail the following spring. A young queen reared during the latter part of June or July is the most dependable for she is not only prolific during the fall but she is comparatively young and prolific the next spring, the two seasons of the year when brood production counts most.

Every beekeeper should examine his colonies during the latter part of July and destroy all queens that show the least signs of failing, replacing them with young queens that are prolific. Old queens that are still producing a maximum amount of brood can be left and replaced later in the season by younger queens.

A good system of requeening the colonies is one that is combined with swarm control measures, that is, introducing the young queen at the same time treatment is applied to control swarming. During the main flow from clover, when swarming is most intense and the colonies have larvae in queen cups, remove the old queen from the hive and destroy all queen cells present. Nine days later again remove all queen cells and introduce a young laying queen. By this method the swarming is controlled and the colonies are requeened at the right time. If the old queen is prolific and increase is desired a frame or two of emerging brood may be removed with her and placed in a new hive. This nucleus can be built up into a strong colony by fall when the old queen can be replaced by a young one.—C. B. Gooderham, Dominion Apiarist.

STRAWBERRY LEAF SPOTS.

Perhaps the most common of the strawberry diseases is the so-called leaf spot. In this district this disease is generally found wherever strawberries are grown. In some localities very little damage is done to the crop, but in others whole plantations have been completely destroyed. As with all other fungal diseases, the severity of the attack depends to a large extent on the vagaries of the weather man.

The Leaf Spot first becomes apparent in the field as small reddish or purplish discolorations on the leaf, but with the progress of the disease these circular spots rapidly enlarge, the central portion becomes greyish in color, while the remainder of the spot shades through a reddish brown to the margin, which remains purple. This is a very striking leaf spot. Occasionally these circular spots fall out, giving the leaf a shot-hole appearance. On severely affected leaves these spots may coalesce to such an extent that irregular blotches practically cover the etire surface of the leaflet. Similar lesions also occur on the other susceptible parts of the plant.

Another leaf spot, perhaps not so common in some districts, is the so-called leaf scorch. The leaf scorch, in the early spring, appears as small irregular purple blotches not unlike the early stages of leaf spot. Later these spots enlarge and coalesce much the same as in the case of leaf spot, forming irregular blotches which often cover the entire surface of the leaflets. The central portion of the spot, or blotch, however, remains dark in color, and this characteristic gives us a ready means of distinguishing these two leaf spot diseases. As this disease progresses all the leaves of a plant take on a dry, burned appearance. Lesions occur not only on the leaves, but also on the petiole and fruit pedicel, where frequently sunken lesions are formed which girdle and sometimes kill these parts.

As a result of the attack of both these fungal diseases, the foliage is impaired and the vitality of the plant greatly weakened. In severe cases the leaves are so affected that the plants die. In any case the plant is weakened and the next year's crop suffers as a consequence. When the fruit pedicles are affected, the berries never mature, but become seedy and worthless.

These diseases are rapidly spread during the growing season by the spores which are developed on the lesions of the affected parts, and are wind borne from diseased to healthy plants, thus setting up new infection in the patch. This accounts for the necessity throughout the summer of repeated sprayings in badly diseased patches.

Control—These two diseases are controlled by the same operations. When the first symptoms of either leaf spot or leaf scorch (small purple discolorations) have been noted in the patch, spray immediately with a 4-4-40 Bordeaux mixture. It will be generally necessary to continue these sprayings every two or three weeks during the season. The following seasons, spray with the same mixture before the blossoms open, and again after the fruit is picked. To obtain good yields from a strawberry patch, the leaves must be kept free from these two diseases, and if the above spray calendar is carried out faithfully, a good, clean strawberry patch will result. Generally after the second crop the plants are plowed under.

When setting out a new patch, never use plants which show symptoms of either of these diseases. A new patch should be sprayed every two or three weeks during the first season. The following seasons two sprays only should be necessary, one before the blossoms open, the other after the fruit has been picked.—G. H. Berkeley, Dominion Laboratory of Plant Pathology, St. Catharines, Ont.

The Dairy Industry of Canada

In the year 1922 the production of dairy products in Canada accounted for an income of $250,618,000, constituting the second largest item of Dominion agricultural revenue, being subservient only to the returns from the field crops of the country. In the year 1910, when statistics of value were first compiled, the value of the dairy products of Canada was $30,433,644, the figures of 1922 showing an increase of over seven hundred per cent. for the twelve-year period. Between these two years lies the history of a rapid and sensational ascent to dairy eminence.

Every province of Canada engages extensively in dairying, as is evident from a division of the Dominion total. Of this value Prince Edward Island accounted for $1,800,000; Nova Scotia for $4,400,000; New Brunswick for $2,000,000; Quebec for $64,000,000; Ontario, $132,000,000; Manitoba, $13,500,000; Saskatchewan, $9,300,000; Alberta, $14,600,000; and British Columbia, $8,900,000.

It is of comparatively recent date since Canada turned her attention seriously to dairying. Whilst the industry on a high standard has long been established in the East, no special mark was made in achievement, and it is only a few years since the West diverted its attention from the exclusive raising of cattle and wheat, on a large scale, to the gentler phases of raising dairy cattle.

It is impossible, however, to overlook the part the Western provinces have played in raising Canada to the eminent position she occupies to-day in the dairy industry, and the significant development of the dairy industry there. The pace set would seem to have administered a stimulus to the entire country.

FIRST REAL ACHIEVEMENT IN 1913.

The first real achievement in the production of a high type of dairy cattle in which the Dominion was to win such renown was when the Province of Alberta developed the champion milch cow of the British Empire in the shape of Rosalind of Old Basing in 1913. This showed other provinces what could be done and spurred them to emulation. In 1920, Ontario produced a world champion milker, Bella Pontiac, and since that time Canada has gone on improving her stock and never permitted the first honor to be wrested away from her. A Quebec cow later made a new official world record for combined butter and milk production. Even this was not allowed to stand, and in the early months of 1923 a British Columbia cow surpassed all world butter production records and is still the world's champion cow.

In the consideration of Canada's youth as a dairy country such achievements are commendable, and already the high type of Canadian dairy cattle has attracted wide attention and made these animals in great and extensive demand. Each year prime Canadian dairy cattle are distributed all over the American continent and shipments have been made to the British Isles and the European continent. Australian buyers have secured animals for their herds in Ontario and animals from the same province have gone to Japan. Shipments have been made from Vancouver to Peru, West Indies and the Hawaiian Islands.

HIGH QUALITY BUTTER PRODUCTION.

The production of such superior cattle is only one of the phases of the industry. The butter product, under careful manufacture and skilful grading and packing, is as correspondingly high. These qualities have easily extended the demand for it, and now Canadian butter is penetrating into many countries of the world, some of which have for centuries been eminent in the dairy industry. Between the years 1868 and 1872 Canada exported an average of 15,097,000 pounds of butter worth $2,760,000 per year, and by the period 1898-1902 was exporting 20,168,000 pounds worth $3,905,000. In the year 1922, Canada's butter exports amounted to 21,994,578 pounds valued at $8,243,148. This went to the United Kingdom, the United States, Belgium, Bermuda, British Guiana, Honduras, Barbados, Jamaica, Trinidad, China, Cuba, France, Hong Kong, Newfoundland, St. Pierre and Miquelon, and other countries.

In the new trend exhibited in recent years Canada may be said to have only set out to make a mark in the dairy industry. It is only of late years that dairy farms have come to be established at all widely in the Western provinces and the cattle and wheat farms to add a small dairy herd to their establishment. The increase in the number of milch cows in Canada from Confederation to 1922 has been at the average rate of 4,793 per year, and the tendency is more accentuated at the present time in the determination to make Canada one of the world's foremost dairy countries.

A Plain Talk.

The world has for us just what we have for it; it is a great whispering gallery which flings back the echoes of our voices. If we laugh, it laughs back; if we curse, it curses back.

There is no joy like that which comes from a useful life; the perpetual effort to do our level best; to try to get ahead without crowding others back, and injuring their opportunites or interfering with their rights; making the most of ourselves not only without making anyone else the poorer, but by helping them as we go.

When a man goes upward he can carry a score of others with him, if he will.

Stacking Silage.

It is quite possible to have silage of the best quality, even though you have no silo. The last two seasons we have stacked our fodder corn green, as soon after being cut as possible, and we are very enthusiastic about the results. Many farmers are continually coming here to see our silage stack and to ask about our method.

We build a stack about twenty feet square and try to keep it perfectly straight and even on the sides and flat on top. We commence stacking as soon as we get enough cut and stack it before it dries out. The silage in our stack seems to be sweeter than some that is in a silo. There is only about a foot at the bottom of our stack that is sour.

The first year we used an overshot hay stacker to elevate the bundles with after it got higher than a rack, and last year we made a platform with timbers and planks on top of a deep wagon box. Next year we intend to build an inclined elevator with an endless apron or chain with slats, to be run with a small gas engine. The idea in mind is to overcome the heavy work of pitching the corn bundles up on a high stack.

The first year we put about twelve acres of drilled corn into the stack. We fed the last of it the first part of June. We did not find a bit of mold in the whole stack, with the exception of about a foot on the sides and top.

It is not nearly so big a task to feed from the stack as I thought it would be. After we get down a few feet the bundles come out the way they were put in. We cut our stack in sections as we feed from it, and cover the cut with hay or oat bundles. The stack will retain enough heat all winter to prevent freezing, excepting a few inches on the face that has been cut.

We do not contend that this method should be adopted where it is possible to build a modern silo. But in this way the small farmer and beginner can have a nice supply of succulent feed for his stock even though he can't afford a silo.—William E. Smith.

Only the female palm tree bears dates.

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POULTRY

No matter how careful you have been to disinfect your houses, paint your perches and protect your birds against body parasites, especially the body louse and the red mite, summer is a dangerous time for these pests. They seem to thrive in warm weather, multiplying rapidly. So it is an excellent plan to handle some of your birds frequently, examine the skin below the vent and around the abdomen to see if there are any signs of body lice or louse eggs. If you find even a trace of these parasites, it is a good plan to go over your birds with some good louse treatment.

There is probably nothing better than one of the following methods: Either rub a small particle of blue ointment or mercuric ointment well into the down and base of the feathers just below the vent, or else dust this same section with sodium fluoride. If you want to do it with the least disturbance of the birds, do it while they are on the perches at night, looking them over using a dim flashlight.

Even more prevalent in the hot weather are the red mites, those little bloodsucking rascals that live in the cracks and crevices of the droppings boards during the day and travel in hordes on the bird's body at night to suck the blood and irritate and pester the hen. Fortunate it is that these little fellows cannot travel over greasy surfaces. All we have to do to control them is to paint the perches, perch supports and nests with a waxy paint or a penetrating tar paint.

We used to think that kerosene painted on the perches would do the trick, but it does not, for it does not reach all of the mites and it evaporates quickly. Any of the so-called perch paints are excellent to use for this purpose.

The summer months are generally considered rather a slack time on the poultry farm, but to the energetic, ambitious poultry raiser, there is lots to do—repairing the plant, painting the buildings, putting the roofs in shape, mending fences and gates, setting broken window lights, plowing and seeding the yards to summer greens or to permanent sod, marketing the surplus cockerels from the late hatched pullets, and there is no better time of the year to hunt up a better market for your eggs.

Gift of Shire Horses to Canada

The Minister of Agriculture, Hon. W. R. Motherwell, stated in the House of Commons recently that the five Shire horses, donated to Canada by the Shire Horse Association of Great Britain, would be located at the Dominion Experimental Station, Lacombe, Alberta. The sixth, "Snelston Topper," donated by Mrs. Stanton of Snelston Hall, Ashbourne, will be assigned to the Dominion Experimental Station at Lennoxville, Que. This disposition, the Minister stated, was in conformity with the wishes of the donors that the animals should be located in districts where some attention had already been given to the breed.

The horses reached Canada recently in charge of the Dominion Animal Husbandman, Mr. G. B. Rothwell. Those destined for Alberta will be exhibited at various western shows this summer.

With the horses came a consignment of Ayrshire cattle, a number of sheep, and a few swine, purchased for use at the Central Experimental Farm, Ottawa, and at various Stations.

Home Education

"The Child's First School is the Family"—Froebel."

The Child Who Reads Too Much — By Marion Brownfield

The modern child reads more than ever before. Children on the way to school, music lessons, or the dentist's carry fiction to read during every unoccupied minute. Even children who dislike to study—because it is something they must do as well as something "uninteresting," will read every spare minute. They are the despair of parents and teachers, because thrillers with the same fascination as the movies, take the precious time and eyesight that should be used to prevent failure in school!

The most common type is the child who, a little delicate, develops into a book worm. Ill health causes this child to feel disinclined to exertion, and reading is easy entertainment. Of course the more he reads, the less he feels like playing. Reading thus constantly reacts against his health.

As reading is enjoyed as a diversion rather than as study, this should be borne in mind when trying to break the habbit. Too often parents will say, "Don't read this fine day. Run outdoors and play!" But if there is "nothing to play" outdoors, other than to make up some imaginary playmate in a yard that seems commonplace by daily association, it is hardly a counter attraction for an enthralling fairy or adventure story. The only real cure is to provide some outdoor occupation equally as enjoyable as reading. At first especially, the counter attraction needs to be more fascinating than later when playing outdoors has become voluntary.

Outdoor amusement does not need to be expensive. Clever mothers devise errands that require a walk, for no child likes to take a walk just for the sake of walking. Shopping of all kinds can be done by children who need exercise in the fresh air. Both boys and girls can be provided with outdoor occupation; raising flowers, vegetables, chickens, rabbits and various other pets. They will be more enthusiastic if there is a definite aim, for instance to cheer up the sick or aged friend. Children, too, enjoy financial profit from a garden. They should be encouraged to market their produce among strangers to test their initiative and courtesy. The family grocer and restaurants may become regular customers. One boy developed a little nursery business by specializing with pine trees he had studied about in school. Another outdoor occupation that brought profit was gathering water cress in a brook and selling it to a railway dining car.

Young children need to have outdoor occupation that is purely entertaining. A swing, teeter-totter and a sand pile are among these. Both croquet and tennis courts can be laid out by amateurs.

Plants and animals should be observed. Contests to name the most birds or common weeds furnish incentive. Small bicycle and coasters are just as necessary for girls as for their brothers, and nearly all children love on outdoor "gym".

DAIRY

Cleanliness is the most important factor in the production of clean, wholesome milk. Much of the dirt and filth that gets into milk and produces deterioration comes from improper methods of handling after being drawn.

However, brushing off the loose dirt and dust about the flanks and udder and wiping the udder with a dry cloth materially assists in lessening the danger of dirt getting into the milk at milking. Cows during the summer season, if stabled at night or confined to a yard, become more or less dirty about their rear quarters and should be thoroughly cleaned before being milked.

I milk my cows in a clean, sanitary stable. I spray the cows before milking. I tie their tails so they cannot switch dirt into the milk while milking. I do not allow feeding to be done at milking time. I remove the milk from the stable as soon as drawn.

Insect Pests of Canada and the United States.

As a result of an international conference on insects of importance both to the Northwestern States and the Prairie Provinces of Canada, recently held at Winnipeg, Manitoba, plans were perfected for conducting experimental work in the control of these insects. The experiments are to be carried on in such a way as to render the results comparable in all the districts involved. For the purpose of plotting the occurrence of the principal insect pests of common importance to Canada and the United States, a base map of all the international territory affected has been prepared.

The principal pests discussed at the Conference were grasshoppers, the western wheat-stem sawfly, the pale western cutworm, and the Hessian fly. The Bureau of Entomology of the United States Department of Agriculture was represented at the conference, as well as the Dominion Entomological Branch.

Instead of Soldering.

When you have a leak in your steel watering tanks, feed troughs or dipping vats and haven't good luck using solder, try this:

Take a small piece of lead, Babbitt metal or solder—the lead out of a .22-calibre rifle shell will do. Cut this so that you can put it through the hole, letting it stick out about an eighth of an inch on each side. Now hold an iron against one side and hit the other side of the lead plug with a hammer until both sides are riveted smoothly. This will stop the leak, and it won't come off as the best soldering sometimes does. You can also mend all the leaky pots, pans or buckets around the house by this simple method.

THE CHILDREN'S HOUR

EVEN AS YOU AND I.

BY EDITH BARKER.

I stood one day at the edge of a pond watching a number of frogs that were sunning themselves. Though they seemed lazy, but few of the flies and mosquitoes that came within reach escaped the lightning-like snap of their jaws.

Suddenly attracted by the sound of voices among the willows that surrounded me, I walked on and discovered a number of boys who were busily engaged in frog-fishing. They were using short poles upon the end of which were lines terminating in a "gig" or "grapple."

This "grapple" was made by binding together three ordinary fish-hooks. Upon each of the hooks there had been placed for a lure a small piece of bright red flannel. It was at once evident to me that should a frog swallow one of these hooks his fate would be sealed; and there would be one less to help destroy the mosquitoes and their larvae.

As, concealed by the willows I watched, one of the urchins caught a large frog, and exclaiming excitedly at the size of it, reached in one of his pockets for his knife; with which he intended to remove the hind legs of the unlucky amphibian.

Vainly struggling against what must have seemed to him the approach of certain death, the frog closed and opened his golden eyes, and the blood from his lacerated lips flowed over the grimy hand of his captor.

Horrified at the cruelty of the child, I stepped forward and grasped the wrist of the hand that held the knife.

"Don't you know that is very cruel?" I asked.

"Aw!" exclaimed the lad, "frogs ain't got no feelin's."

I pointed to the blood that stained the child's hands.

"A frog," I said, "has a heart and nerves, and in its body the blood flows even as in yours and mine. And when hurt he suffers pain as we do."

Then after glancing at the swollen blotches on the bare legs of the boy, I continued:

"Come with me and let me show you how much more useful live frogs are than dead ones." And I led the way to where other frogs sat sunning themselves undisturbed.

In the shade mosquitoes were humming, but a frog fully as large as the one the boy still held in his hand was catching such of the insects as came within his reach.

As I kept on explaining, a light of understanding came into the eyes of the boy as he scratched absently at a mosquito bite upon his leg. Then carefully he removed the hook from the lip of the frog he held and set it down in the soft ooze at the edge of the pond.

"Aw! Come on, kids," he yelled, "let's go and play at something else."

The future great general is now slumbering in the ranks, the daring and resourceful executive in some humble clerk in shop or factory. The greatest artist, the greatest musician, the greatest writer, inventor, orator, statesman, scientist — the greatest achiever in every field that the world has yet seen may to-day be working in some humble capacity, be dreaming of the bright future he will some day realize.—O. S. Marden.

NEW HOSPITAL FOR KITCHENER

The contract for the new St. Mary's Hospital to be erected in Kitchener this year, has been awarded. The new hospital will have a capacity for 100 patients and will be equipped with the most modern hospital appliances. The Sisters of St. Joseph are erecting the building.