

FOR FARMERS, STOCK BREEDERS AND GARDENERS

NEWSY NOTES

BY AGRICOLA

WHAT IS A VIRUS?

A recent issue of The Guardian contained a most interesting article on the virus of distemper, a disease affecting dogs, ferrets, and foxes. The British bacteriologists announced in 1928, that the disease was "the effect of a virus—a member of a family of incredibly minute, invisible organisms which are responsible for human diseases, such as measles, smallpox, and infantile paralysis." It was further stated that the vaccine for producing immunity, the serum for treating the actual attack, and the living virus itself had been successfully exported from England to Canada. We may now hope that the dread disease, which at one time caused heavy loss and threatened to kill out the fox population, is finally conquered.

Now for the question—What is a virus? As it happens, a writer in the N. Y. Herald-Tribune contributes an article which sums up present day thought on this very matter. Filterable viruses, he says, "are the causative agents of colds, fever blisters, influenza, smallpox, infantile paralysis, parrot fever, chicken pox, rabies and warts, to mention only a few." More than fifty virus diseases have been found in animals, and many highly destructive diseases of plants are of this type.

A knowledge of bacteria, their work and size, is now-a-days the common property of that versatile person "the man in the street."

But while we know the bacteria as microscopic objects, many of the viruses are invisible to the most powerful microscopes and can pass through the finest laboratory filters—whence they are called filterable. This smallness has caused some research workers to declare that the virus, if alive, must have a life differing in quality as well as in size from the larger pathological organisms. Dr. Rivers of the Rockefeller Institute, states however that there is a great difference in size among the viruses and that the larger types, such as the virus of smallpox, will not pass through filters "coarse enough" to pass certain types of true bacteria.

The filters in use in laboratories are made of kaolin, a kind of clay, the material of which is so fine that the filtering pores or interstices are only one 125,000th of an inch in diameter. As this is about the smallest diameter visible by white light and the ordinary microscope, it follows that anything that passes the filter can only be seen by the ultramicroscope. The viruses then are so small that they do not even produce cloudiness in the filtrate.

Ordinary bacteria are easily grown in suitable non-living media,

but most scientists agree that no workers have yet succeeded in cultivating viruses except in living tissue. Most ordinary bacteria attack the tissue cells from the outside (except under special circumstances) while the filterable viruses (or at least some of them) appear to be able to penetrate the cell walls and attack the cell from the inside. A third point of distinction is this: after an attack and recovery from one of the virus diseases the patient or host is strongly immune to further attacks. This type of immunity is not usually encountered in the true bacterial diseases. How the immunity is effected is still a matter of dispute.

So far the argument regards a virus as being in some degree comparable to a bacterium, but it must not be lost sight of that many biologists contend that it is "a non-living 'invisible' particle, a sort of 'inanimate' poison."

In the end the writer happily likens the virus to electricity. "Very little is known for certain about what they really are, but a wealth of information is at hand about what they do and how they act." And if we must leave the opening question unanswered, we can at least rejoice that scientists are making use of that wealth of information to lighten some of the ills which attack both man and the lower creatures.

(Influenza may be a virus disease all right, but one thing I am certain of, to my regret, it never conferred immunity on me!)

FEED THE BIRDS CONTEST

I am now in possession of the two books donated by Rev. Dr. Myers as prizes in the contest. One is a volume containing "Treasure Island" and "Kidnapped" by R. L. Stevenson, which are two of the best stories for boys ever written. The other is "Alice in Wonderland" and a selection of "Lewis Carroll's" works: a capital farrago of fun for a girl with a sense of humor. Alice, by the way, was a real personage, and is still alive though eighty years old. "Lewis Carroll" was born just one hundred years ago, on the 4th of May; so the English speaking peoples have been celebrating his birthday, and Alice Liddell Hargreaves, the original "Alice" of the book, faced the microphone and joined in the broadcast on that date. How the book came to be written the lucky recipient will learn from the introduction.

It only remains to add that the two volumes are autographed with "The compliments of A. J. Myers, Ph. D., Hartford, Conn."

THE STRAWBERRY ROOT WEEVIL

It is some years now since at-

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SEEDSMEN

Attention was first called to the presence of the above named beetle in this province by a special article in The Guardian from the pen of Prof. R. R. Hurst. Since then much additional light has been thrown upon the life history of this pest, and Pamphlet No. 5 New Series, "The Strawberry Root Weevil," by W. Downes, Assistant Entomologist, embodies this information.

The beetles (which have overwintered) begin to deposit the eggs as early as the 13th of May, and within three weeks the larvae hatch out. These do damage by eating off the roots of the plants, and if very numerous "they constitute a serious menace." After an indefinite period of feeding the larvae pupate and in about three weeks emerge as adults and the life cycle is complete. The adults feed on a good many other plants besides the strawberry. I recollect reading that it attacked the raspberries here.

The cultural methods of control depend on starving the larvae: against the adults poisoned baits are recommended. The bait is applied twice in the season, the first application being as early as convenient. Both methods are fully explained.

Several other insects injurious to strawberries are noticed in the pamphlet, which may be obtained free from the Publications Branch, Ottawa.

NATURE NOTES, APRIL 1932

A cold, dark month, in general. On the 5th, at the time of new moon, there was a genuine winter's day, with the thermometer ranging between 24 and 30 deg. F. We had no mail that day, a token of very bad travelling conditions. This inclement weather was responsible for the destruction of thousands of migrant birds to the south of us. On the 6th an earthquake in China caused the loss of tens of thousands of lives. On the 6th Venus and the moon were in

close juxtaposition and this was followed by an earthquake in Argentina and eruptions in the Andes on the 11th; the disturbance reached the Maritimes as a 40 m. p. h. gale, of which we got our share. On the 20th full moon, and two days later, a blizzard in Western Canada, which reached us on the 24th with a wintry sprinkle of snow. Altogether a disappointing month, more like winter than spring.

Bird life is very scarce here, but this may be because of our northerly location. The southern sheltered parts of the Island have abundance of birds when we have none. The first robin came on the 7th, and I heard the Wilson's snipe for the first time on the 23rd. The frogs "woke up" on the 22nd.

Francis Bain has this to say of the Pipe-fishes or Syngnathidae: "The Pipe Fish which has a long beak-like muzzle, and the beautiful little Hippocampus or Sea Horse, are not uncommon on our fishing grounds."

This family, of which we have the two local representatives, is found in both tropical and temperate waters, and besides being of strange form, its members have some remarkable habits.

The Pipe-fish (Siphonotus fuscum) is common on the Atlantic coast. Its body tapers gradually so that it is more fish like than the Hippocampus, which it resembles in that it is clothed with bony plates of an angular appearance. The head is in line with the axis of the body, and is prolonged into a beak-like muzzle, ending in a small mouth—like a slit—and toothless. The gills are tuft-like, small, and protected by a large simple plate (the gill-cover). The tail is not prehensile and has a well developed caudal fin. There are no ventral fins.

The Sea Horse (Hippocampus) Like the preceding, its body is protected with bony plates, giving it an angular appearance, but the body is abruptly contracted at the base of the tail. The head is crested, and is out of the line of the body; the mouth is small and toothless and is situated at the end of a long snout. The gills are small, tufted, and largest at their free ends; the gill cover is a large simple plate. The tail is prehensile and has no caudal fin, neither are there any ventral fins.

In feeding, both these fishes assume a more or less vertical position with the tail resting on the ground. In addition, the Sea-horse takes hold of the seaweed by curling the tip of its tail. By the sudden opening of the slit-like mouth, water, containing food, is sucked into the tubular snout.

As these creatures are not well supplied with fins, their movements differ from those of other fishes; they move forwards, upwards or downwards, with equal ease, and with what has been aptly described as a "slithering" motion.

The parental habits of the Pipe-mouthed fishes are not less remarkable, seeing that the males carry the eggs, and look after the newly hatched fry till they are able to do for themselves. The females deposit the eggs on the sea-floor, and the watchful males gather them. In the case of the Sea-horse the male has a pouch on the abdomen into which they are thrust; but the male Pipe-fish carries the eggs either on the abdomen or under the tail where they are held in and protected by folds of skin. Our Sea-horse appears to be identical with that of the Northumbrian coast; the upper part greatly resembles the conventional figure of the horse (knight) in the game of chess, and has given rise to the popular name.

Towards the end of this month a lad of my acquaintance trapped a skunk and took the muzzle in to secure the bounty. He learned that 500 snouts had been brought in to that date.

IN STUD

Orola, standard and registered No. 3274. Will leave owners stables, Cherry Valley on Monday, May 29th for Souris, stopping at Morell, Beav Monday night. Thence through by way of St. Peters to Gowen Brae, stopping overnight until Wednesday, at noon. Thence through by way of Bay Fortune, stopping Wednesday night, passing through by Annapolis and Little Pond through to Dundas on Thursday. Leaving Friday morning enroute home. This route will continue fortnightly until further notice. This is a beautiful chestnut stallion, weighs 1100 pounds and has the best breeding of any Island bred stallion in the province. His dam is by Parkside, second dam by Provider, third dam Aflight, fourth dam, Abdullah Messenger. His sire Dinjola by Expedition was the fastest stallion that was ever brought to this province, having a record 2:04 1/2. Orola has paced quarters over the ice this past winter in 31 seconds. This horse is well known on country tracks throughout this province, having paced miles in 2:18 last summer. Leo Francis, Cherry Valley, owner. Terms: \$10.00 for season; \$3.00 at time of service. Balance when mare proves in foal.

Gardening

Warm Weather Plantings

There are certain flowers and vegetables which must not be set outside or the seed sown until the weather turns warm and there is no longer danger of frost. Even if the latter does not come along, these things will not make proper growth until soil and air really acknowledge that summer is almost at hand. Of course in the colder sections of the country some of these things cannot be considered but most of them can, as the farther north one goes the longer are the summer days and the greater rapidity of growth. In the flower line, these hot weather things, in the order of planting run about as follows: Gladiolus, Dahlia and Cannas in bulbs, tubers or such things, and Asters, Petunias and many other bedding plants which cannot stand frost. The three first named should be planted about three times as deep as the diameter of the bulbs and tubers, and the Dahlias, especially should be staked. In the bedding plant group it is advisable to secure or grow in the hot bed and cold frame, stout branching plants, rather than too tall ones. In transplanting, expose to sun as little as possible, water well and add a pinch of commercial fertilizer, dissolved in water, to the nearby soil. In the vegetable group will come tomatoes, the main planting of cabbage, egg plants, lima beans, water and musk melon, cucumbers and celery. The main planting of the latter should not go in much before July, otherwise it will come on too early for full use of storage. Coos lettuce, Chinese cabbage and other fall salad crops are planted in June and July and the same is true of table turnips. To save space, many of the trailing vegetables such as cucumbers, melons and squash may be trained along a fence while the tomatoes should always be staked. Nip off all side shoots and tie main stem loosely at twelve inch intervals to the stake which should be about six feet high and planted firmly, at the same time the tomato plant is set out.

Check over Flower List Before finally disposing of the sowing and planting end of the flower garden it is well to check over the varieties and types in order to make sure that all requirements have been complied with. One's garden should be balanced. That is there must be variety of colors, shaded corners as well as hot, dry ones planted with something suitable, plenty of tall things, some scented blooms like Stocks and Nicotiana, continued bloom from June until frost, fences and vegetable garden screened with tall bushy things and annual climbers, and a fair showing of the new and vastly improved both single and double flowers.

Rotate Vegetables It is advisable to move vegetables around the garden from year to year, the practise being known as rotation. One vegetable grown in exactly the same location each season will soon exhaust all the particular nourishment required and may also fill the soil with disease. This is particularly true, also of some flowers especially the gladiolus. Then there are leguminous crops such as peas and beans which add fertilizer to the soil and should be moved around so that the whole garden will benefit. These will offset the inroads made by such heavy feeders as corn, beets and carrots.

Mulching Cultivation can be saved by the use of a mulch of specially prepared paper, chopped straw, lawn clippings or leaves. This is particularly valuable among tomatoes, head lettuce, cabbage and the melons in the vegetable garden, and among roses and other flowers. With soil so protected, the gardener may go away on his holidays with no worry about drying out. The paper which is now favorably recommended by gardening experts is fastened to the ground by strips made of ordinary black wire.

A letter written by Robert Burns the poet, to a schoolfellow, the son of a farm laborer in Ayrshire, Scotland, was sold recently in London for \$415.

So large was the crowd to watch races between 60 "baby" automobiles at Dublin, Irish Free State, recently, that another miniature-car meet will be held.

Should We Spray Our Potatoes

(Experimental Farms Note)

One must spray his potatoes if he wants to grow them with profit. Spraying is recommended for two main reasons.

1st—It is a protection to the crop. When early and thorough applications of fungicides are made and continued regularly during the growing season, plants are protected against the attacks of fungi and the depredations of insects. Several growers have objected that such protection could not be realized but after inquiring upon their method of preparing Bordeaux mixture, the time they started spraying, the number and thoroughness of fungicidal applications, they realized they had faulted in one or more of these points. Spraying when done properly is a protection to the crop.

2nd—It favours the development of potato plants and thereby assures a larger crop. In certain regions, where diseases that can be controlled by fungicides, particularly late blight, make their appearance only once in several years, growers do not go to the trouble of spraying. According to them the risk is worth while taking. To these may we say that experiments carried on for several years at the Dominion Laboratory of Plant Pathology at Ste-Anne-de-la-Pocatiere show that during blight free years potato plots that were sprayed—regularly throughout the season showed considerable increase in yield over those plots that were not sprayed, and it would seem advisable that growers in these regions should spray a few times to secure a larger yield and protect their potato fields against sudden appearance of the disease.

POTATOES

An official bulletin just released shows the acreage of potatoes in the South to have been reduced below the planting of 1931 by about 30% and to be the smallest acreage planted for many years. Considerable damage has been done by frost with the result that the present probable yield will be but about 60% of last year.

No late official report is yet available regarding the planting in Maine. But unofficial reports indicate that the acreage will be reduced by about 30%.

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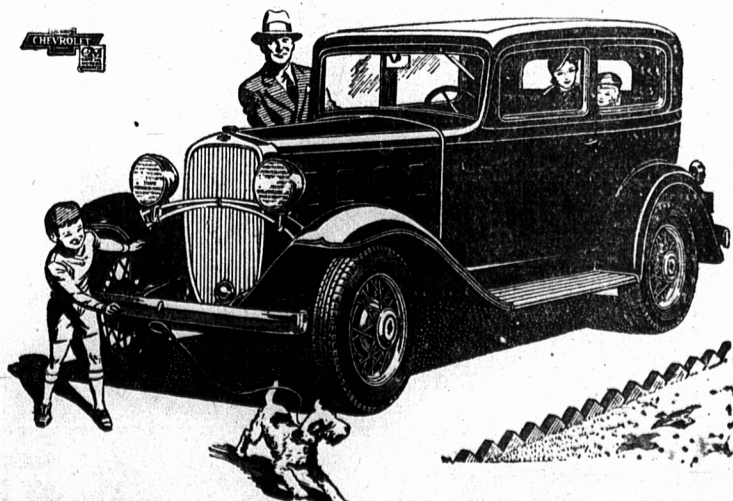
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