# The Progressive MODERN FARMER

## TIMELY NOTES ON TOPICS CONNECTED WITH Silver Fox Farming

The United States government conducts a fur animal experiment station at Saratoga Springs, New York, with Charles F. Bassett director. A great deal of time has been spent and experiments made to solve the problems that confront the rancher of silver fox and mink. This province is greatly indebted to Dr. C.K. Gunn for the experiments which he has conducted at the Experimental Station in Summerside. At this season of the year when we are wondering why we are not having more litters or larger litters, it may be worth while to briefly look over a report made from the U.S. station last season.

The experiments with fur animals made at this station include nutrition, reproduction, feeding and other phases of research which related to the production of fur animals. As long ago as 1932, a study was initiated to determine what products of animal or vegetable origin high in protein content could be used to replace part or all of the meat portion of the fox ration. Soy bean oil meal, beef meal, peanut meal, fish meal, liver meal and tankage were tested and found to be practicable and economical meat substitutes in the fox ration. Of equal importance is the fact that the pelts produced by foxes fed these substitutes were superior to the fur produced by foxes receiving rations with a high percentage of raw meat and the cost was about two-thirds at much.

* * *

In June, 1935, preliminary experiments were conducted to determine whether the meat substitutes that were satisfactory for foxes would be desirable for minks. Later, as the studies progressed, reports appeared from time to time in fur farm magazines describing the results that had been obtained when beefmeal, tripe, soybean meal, corn gluten meal, peanutmeal, canned fish, whole frozen codfish, and fishmeal were used to replace a part of the meat portion of the mink ration.

**Fox Mating Experiments**

Prior to 1937, fox management during the breeding season had been largely concerned with the pair or monogamous system of mating. A male and a female fox placed together in a pen just before the start of breeding season were left together until the pups produced were old enough to wean. Weeks after the young had arrived the kennel lid would be carefully raised, the nestbox examined, and sometimes pups were found; sometimes there were no pups. At that time, we did not know why some foxes produced young and others did not. A failure to mate or to conceive, a resorption of the young, and abortion, or a litter destroyed at or shortly after birth —any or all of these factors could have been responsible for the non-production of young. An efficient and effective system of polygamous mating was required because of its value in herd improvement and the definite economies that would result. Some ranches had made progress in developing polygamous males and carrying out a system of polygamous mating.

* * *

The study of the various problems that have arisen in connection with the development of a satisfactory system of polygamous herd management has continued for eight years. The observations made during that time, and the results which were obtained, have been reported in articles published in the fur farming magazines. These articles have dealt with the polygamous mating of foxes, the frequency of use of fox males, determination of estrum in the fox vixen, vulvar size and its relationship to fertility, certain aspects of reproduction, and the proper time to mate fox vixens for optimum production. We considered the successes and failures and profited thereby.

**Studies in Productivity**

In 1937, a cooperative agreement was made with Swarthmore College, Swarthmore, Pennsylvania. Dr. Robert K. Enders was in charge of this work and it includes studies of the physiology of reproduction in the fox and mink. The results of this work appeared in the various fur farming papers and did much to clarify some of the problems confronting the mink and fox breeders at that time. His later study on ovulation in the fox, which showed that this process probably occurred late in the first day of heat, was the primary basis used in experiments which were later conducted at the Fur Animal Experiment Station to determine just when in the estrous cycle matings should be permitted in order to result in an optimum production of young. The results were published and clearly indicated that, on the basis of present information, late second day matings are the most productive.

**Nutritional Studies**

In 1938, a cooperative unit was established at Cornell University under the leadership of Dr. L.A. Maynard and Dr. John K. Loosli. This unit was concerned primarily with nutritional problems, particularly those dealing with digestion and metabolism. As a result of these studies and later ones by Dr. S. E. Smith and Dr. L.E. Harris, it appeared desirable to study their finds on a larger scale under actual ranch conditions. Since the Saratoga Springs Station had the necessary equipment and animals for such studies, it was undertaken there and another phase of experimentation was thus begun. Studies were initiated to determine both the minimum vitamin A and minimum calcium requirements of growing fox pups. These experiments were rather extreme in the deficiency systems which developed and in the losses which were suffered, but they gave us the answer to the calcium requirements, and in the case of the vitamin A experiment, opened up an entirely new thought in fox nutrition through the discovery of the formation of renal and vesical calculi almost in direct proportion to the amount of vitamin A allowed. The results of these experiments were prepared in the form of scientific articles, and have recently been submitted to certain of the scientific magazines for publication after which they will be rewritten in popular form for the various fur farming papers.

* * *

In continuing the experiments on basic nutritional requirements of both foxes and minks, studies were initiated in 1943 to determine the minimum and maximum amounts of calcium, phosphorus and vitamin D in the rations of growing foxes and young minks. Additional studies were also carried on to determine the desirability of using carotene as a sole source of vitamin A in the diet of growing fox pups. In 1944, the protein requirements of growing fox pups and weaned mink kits were studied, both during the period of rapid growth and also from weaning to pelting time. The results of all these studies have been prepared as scientific articles, or are now in the process of preparation. The information thus made available will be of value to the fox rancher indirectly, for in all probability our results will be used by the various commercial feed companies in manufacturing feeds and formulating rations.

**Hormones and Daylight**

Experimentally altering the hours of daylight—in some cases by lengthening and in the other cases by shortening—has remarkably changed the reproductive and in some cases the molting cycle of certain birds and animals. Light entering the eye is transmitted by the optic nerve to the anterior pituitary and there stimulates the production of certain hormones. These hormones, in turn, act upon some of the organs of the reproductive system, causing earlier ovulation and spermatogenesis in the females and males of certain species. These facts, established by other scientists, raised the question as to whether the hours of daylight to which fur animals were subjected following the breeding season might not be the answer to the extremely long gestation period of the marten and the irregular and erratic gestation records of the mink. Experiments planned by Dr. Robert Enders and Oliver P. Pearson were conducted at the station to determine if this were true. The results with which you are familiar have already appeared in both trade papers and scientific journals. We definitely know now that the lengthening days of spring are the stimuli which stir the sleeping blastocyst or embryo into action and cause implantation to occur in both the mink and the marten.

* * *

Success of other investigators in changing coat color of the varying hare and the weasel indicated that artificially altering the length of day might presumably cause a speeding up in the shedding process, in the growth of new fur, and finally in priming. Experiments along these lines were conducted with adult foxes in 1943 and reported in the trade papers in 1944. A more recent experiment in 1944 has indicated that there is little to be gained by further lengthening the hours of daylight or by beginning artificial lighting earlier in the season. In addition, it has been demonstrated that the shedding process in fox pups can be speeded up approximately three weeks by artificially altering the hours of daylight. Thus another phase of experimental work with fur animals is developing.

**Genetics Research Coming**

Perhaps you are wondering what research may be planned for the future. The trend now seems to be toward the field of genetics. This is practically a virgin field when fur animals are considered. The current demand for mutations of all types and kinds, the numerous questions raised in regard to desirable systems of mating and the many problems pertaining to the physiology of reproduction all indicate that research in genetics will soon assume major proportions. The work in nutrition should be continued because there is so little known about fox, mink, and marten food requirements. Further improvement in the fox or mink diet cannot be made until experiments demonstrated the basic nutritional requirements of those animals; the different nutrients needed; the optimum amounts necessary for growth and reproduction, and their effect upon the quality of fur produced.

* * *

Fur farmers look to the scientist for leadership in the development both of basic information in fur-animal breeding and of methods of improvement, and they have appealed many times to the Federal and State Governments for assistance. One or two state universities or agricultural colleges have helped, but little has been done to develop this new and promising animal - production enterprise. There are many reasons why fur-animal research must be conducted primarily by properly equipped public institutions, but this can be done only in response to a sufficient public demand and with the active support of those who have a stake in the industry.

## CANADIAN GARDEN 1946

(By Gordon Lindsay Smith)

**POROUS SOIL COVER NEEDED TO INSURE SEEDLING GROWTH**

Covering seed, after it is sown, is easy to do, and important to do right. If the seed is covered too deeply, or with compact, wet soil, or soil containing so much clay that it will form a hard crust which seedlings cannot penetrate, then the sowing may be lost.

In gardens which have heavy soil, it is a good plan to save your best loose, sandy loam to use in covering seed. Mix all the compost you can, and lacking compost use peat moss. Then after the seed is sown, cover with this special soil, which will not form a crust, and will allow both water and air to penetrate for the benefit of your seedlings.

This treatment is especially important in hot weather, when most soil is liable to bake into a hard crust.

Soil must be firmed above the seeds, to form close contact, and prevent aid spaces from separating the soil and seed. This is especially important with beet and Swiss chard seeds, and others of large and irregular shape. By firming we do not mean pounding. Press down with the hoe blade, or use the side of a rake; and afterwards draw the rake lightly over the row to break up the crust and prevent baking.

Experienced gardeners learn through trial and error to watch this point, and take precautions to avoid conditions which may prevent seeds from growing. A heavy rain falling soon after seed is sown may pack the soil too hard, especially if it is followed by sunshine. Until the seed has sprouted the soil surface over it should be moist and loose.

When the ground dries out excessively in the spring it will pay to sprinkle the rows in which seed have been sown to prevent them lying dormant for lack of moisture. This is the only time when the garden should be sprinkled, rather than soaked.

Special Top Soil Rich in Humus is Safest for Covering Seed

## Egg & Poultry Report

Production shows further increase this week with quality reported on station visits as very good. Demand not so keen from Maritime points but as yet no serious accumulation exists on dealers floors. Indications point to export shipments being resumed shortly. Market is quite steady at last week's levels.

P.E.I. sations quoting ungraded eggs delivered:

| | |
|---|---|
| A Large | 31-33 |
| A Medium | 29-31 |
| B | 23 |
| C | 18 |

Graded shipments delivered Charlottetown:

| | |
|---|---|
| A Large | 35-6 |
| A Medium | 33-5 |
| A Pullet & B | 28 |
| C | 23 |

Specialized producers receiving for cartoned pack:

| | |
|---|---|
| A Large | 38 |
| A Medium | 36 |
| A Pullet | 33 |

Poultry receipts are now practically nil with ceiling prices prevailing. Four Island canneries still in operation. Total pounds of poultry canned to date this season 1267052 as compared to total output for last season of 1225809 pounds. Demand for canned product still far in excess of supply.


## Baby Chick Buyers

Hurry for this special available now — New Hampshire Red Cockerels $5.00 per 100. First come, first served. Also few started Barred Rock mixed and Barred Rock Cockerels. Write or telephone,

SWIFT'S HATCHERY,

Charlottetown

Telephone 2192 or 1027

3-16-3i.


When baking foods in glass dishes lower oven temperature may be used because glass absorbs heat more readily than most metals.

## - NEWSY NOTES -

By AGRICOLA

**A FLYING SQUIRREL DESCRIBED**

I had my first chance to describe a Flying Squirrel the other day when a neighbor brought in a little animal he had found dead in the snow. I had seen one "flying" about 25 years ago, and observed that it was not flight in the usual sense of the word. The animal was up a tallish tree and perhaps disturbed by my cutting firewood it spread the membranous flaps on either side of its body and boldly "took off." It glided outward and downward, but before touching the ground, checked its momentum by sweeping upward in a gentle curve that landed it on the bole of another tree, up which it actively scrambled. These gliding leaps, it is said, may extend to a distance of 50 yards or more.

On examination the dead squirrel turned out to be:

**Glaucomys sabrinus macrotis** Mearns, the Mearns Flying Squirrel. Winter Pelage: **Top of head and upper-parts generally,** of cinnamon hue with a little blackish marbling. **Sides of face** and outer edge of "wing-membranes" smoky-gray, shaded darker in places. **Feet** mouse-gray above, whitish below. **Tail** flat, tapering to a point. 38 mm at its widest part, abruptly narrowed where it joins the body, hair long, dull cinnamon. **All underparts** soiled whitish, with dark under-fur. Total length, 275 mm. Tail, 120 mm. long. Hind foot, 35 mm. Across body with membranes spread, 100 mm. (March 2, 1946). d2er olnigasie ElSed a..

The summer pelage is said to be about the same, but with the upper parts slightly darker. My specimen had little pink tubercles or pads under its toes, one toe on each foot being elongated to stretch and support the "wing-membranes." The ears were prominent and resembled those of the larger foreign bats.

These squirrels make their homes in hollow trees, deserted woodpecker nests, and the like. A neighbor says that while cutting down a big tree, he counted five flying squirrels that emerged from a cavity in the trunk. They may be commoner than is generally believed, since they are strictly nocturnal, and remain concealed in their nests during the day.

Apparently these little creatures do not hybernate, but are known to lay up stores of food, nuts, grain, buds of trees and wild fruit, which are consumed in the nest during stormy weather. It is noted that in captivity they eat bird's eggs with great satisfaction, and instantly killed and ate a young chipping sparrow placed in their cage. It would thus appear that they are as destructive to bird life as the common squirrel.

Flying Squirrels were first made known to naturalists by Captain John Smith in his "General Historie of Virginia" (A.D. 1624) wherein he states:" A small beast they have they call Assapanick, but we call them Flying Squirrels because spreading their legs, and so stretching the largenesse of their skins, and so stretching the largenesse of their skins, that they have been seen to fly 30 or 40 yards."

A number of naturalists, as John Ray (1693), Mark Catesby (1748), and George Edwards (1751), have also left us notes on the Flying Squirrels, but these are too lengthy to quote.

**THE YEOMEN OF THE GUARD**

I read with great interest that this year's Gilbert and Sullivan opera at Mount Allison University, is to be "The Yeomen of the Guard." In my opinion this is the best of the light operas. It is about three years since I presented readers with a list of the Gilbert and Sullivan accomplishments. "In the Yeomen of the Guard" (I wrote) "the collaborators did their happiest work." There is no trace of the ironic: "here was the very soul of Old England caught up for a moment of fancy and mellow charm," said a commentator, when the play first appeared in 1888.. I have witnessed the performance of this gem of light opera eight or nine times in London and Newcastle,and it never palled. A strange conclusion to the opera is that the jester, Jack Point, dies of a broken heart as the curtain falls..

Whether we hear the actors from the stage, or over the radio, a knowledge of the plot helps us to appreciate the dialogue and the lyrics.. The action takes place on "Tower Green" (before the Tower of London) in the 16th century. The hero is Colonel Fairfax, confined in the Tower and under sentence of death for the crime of sorcery, being accused by a relative who hopes to inherit his estate. The opera opens with a song from Phoebe Meryll, (daughter of Sergt Meryll) who works her spinning-wheel as she sings "When Maiden loves she sits and sighs." She is enamored of the Colonel. Sergt. Meryll and his Yeomen enter and sing a fine double chorus, along with the assembled citizens—

"But our years are not so spent, and our days are not so faded, but that we wish one consent, were our loved land invaded, still would face a foreign foe as in days of long ago —as in days of long ago."

Then enters dame Carruthers, sturdy housekeeper of the Tower, who apostrophizes that ancient building—

"When our gallant Norman foes made this merry land their own, and the Saxons from the Conqueror were flying, at his bidding it arose clad in panoply of stone, a sentinel unliving and undying. Insensible, I trow, as a sentinel should be, though a queen to save her head should come a-suing; there's a legend on its brow that is eloquent to me, for it tells of duty done and duty doing! Though the screw may twist and the rack may turn: though men may bleed and men may burn; o'er London town! and its golden hoard I keep my silent watch and ward!" The last four lines are supposed to be the inscription (legend) on the Tower.

Now enters the Colonel himself, passing across the green to his new quarters in the Bloody Tower—the condemned cell. He, like all the characters, has something to sing and he does it in the style of Sir John Suckling or Richard Lovelace. His song refers of course to his predicament. "Is life a boon?" he asks, and finds some consolation in the fact that his time is not up yet, whereas it might have been—"this afternoon!" Then in the paradoxical fashion of the time he goes on: "Is life a thorn? Then count it not a whit; man is well rid of it, soon as he's born:" and so on. I am writing from memory and because Fairfax's song seemed so unreal I never got it "by heart."

As Fairfax finishes, Jack Point, the Jester, and Elsie Maynard, the Merrymaid, rush onto the green, pursued by a noisy mob who want them to "put on a show." Sullivan well expresses the disorderly scene by a rapid alternation of couplets in 4-4, 5-4, and 3-4 time. (How do you beat 5-4 time?)

The Lieutenant of the Tower—a much more imposing figure than Fairfax—quells the noise and Elsie and Point sing a duet—"I have a song to sing, Oh!" (That sentimental song was an immediate success—it was whistled, sung, and played on all kinds of instruments, all over the British Isles). Meanwhile Fairfax has a brainwave: if he marries, his estate will go to his widow, instead of his scheming cousin. He puts this before the Lieutenant, who accosts Elsie—"How say you, maiden? will you wed a man about to lose his head?"

Elsie doesn't like the prospect, but since she is to get so many "crowns" wherewith to aid her sick mother, she consents, Jack Point confirms the bargain: "Though as a general rule of life I don't allow my promised wife My lovely bride that is to be, to marry anyone but me: Yet if the fee is duly paid and he in well-earned grave is laid, objection I will waive.....yes, objection I will waive!" So Elsie is blindfolded, led away, and married off stage, never having seen her bridegroom She returns, to sing a plaintive song about her new status—"Tis done I am a bride."

In the meanwhile matters are working in the prisoner's favor. After a comic love-scene and a song ("Were I thy bride.") Phoebe manages to abstract the Tower keys from the Head jailor's belt, and sets the prisoner free. We must keep an eye upon this Head Jailor, Wilfred Shadbolt, he is also Assistant Tormentor, and a half loveable kind of brute who comes into the opera time and again.

Now the great bell of the Tower tolls, betokening the escape of a prisoner. The stage slowly darkens. The Yeomen, who are singing in chorus, retire to left and right leaving the centre of the stage open, but not unoccupied That athletic figure clothed in black "skinfits," leaning on a shining axe which in turn rests on the historic block, is the Headsman He stares fixedly, silently, at the audience as the lights go out The curtain falls and the First Act is over.

It is over forty years since I heard the Yeomen" but the above account is, I think fairly correct. It is worth preserving for reference.

**AN ISLAND STORY**

It was a former President of the United States who inaugurated what has come to be known as the "Spoils System." Spoils in this connection simply means loot, and the loot came from the public treasury. To achieve this desirable end it was necessary to gain political power by bribing the individual electors who either did not know or did not care that they were being used as tools in many a shady transaction.. When Canada set up her Provincial Legislatures the American system was adopted and many curious stories are told of elections conducted under its influence. The following comes from John MacKinnon's "Sketch Book":

Not far from Kensington, P.E.I., there formerly lived a father and son in a kind of Indian fashion, always on the look out for anything except work. MacKinnon gives their name as Bram; most certainly a contraction.

Once, when an election was in the offing, the son came to town to interview the dispenser of boodle. He told of voting for the party in the past, and pleaded for money or rum.. The agent listened but kept quiet; if he remembered anything about the Brams, it was their aptitude for deception. At last he appeared to relent and broke out: "Well, you miserable devils, I suppose you must get something, so here goes.. If on your honor as a man, you and your father promise to vote for us next month, besides doing your best canvassing, I'll give you a case of good whiskey, You'll be notified by mail as soon as the 'balm' arrives."

Bram was speechless—a case of whiskey—he must be dreaming! The incredulity of his father was still more pronounced, like the patriarch Jacob when informed his son Joe was alive..

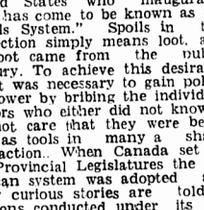
In about a week Bram was notified that the whiskey was waiting his order. He set out without a moment's delay, and returning about dusk, brought in the treasure, filling the humble abode with what old Bram called a "heavenly smell."

All the neighbors had been invited, and a number of lassies helped set viands on the table, also three of the bottles.. A fiddler was present for the entertainment was to finish with a dance. All being seated, Bram senior rose and said impressively: "Gentlemen, fill your glasses and let us drink success to the old party of victory!"

The glasses were filled, all crooked the right elbow, and the most thirsty got the stuff down at once. Then they all stared, bewildered, while old Bram recovered his speech to shout "I be d—if the stuff isn't water!"

It was too true and the company was too much annoyed to even taste the eatables, but went off swearing, mad, sober, and disgusted.

The political agent had procured an empty case, filled the bottles with water colored to the right tint, and replaced their straw ulsters. Then he drenched them liberally with whiskey to produce the heavenly smell that misled old Bram. This I believe to be a true story, though it was not like an agent to pull off such a practical joke before the election was over!

*"Getting some good grain this year, Captain?"*

"Yes, these Canadian farmers know how to grow it. I understand they all use Ceresan to keep their crops free from smut and other seed-borne diseases."

CERESAN

Seed Disinfectant for

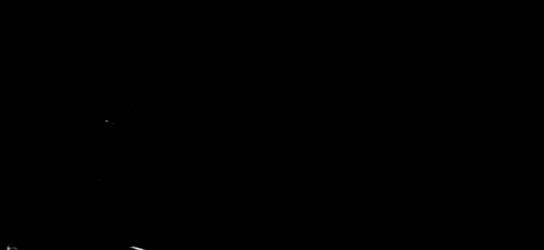
WHEAT · OATS · FLAX · BARLEY

Controls Smut, Bunt, Seedling Blight, Seed and Root Rot.

C-I

BUY FROM YOUR DEALER







## Petunias Are Popular For Abundant Yield of Bloom

Petunias and zinnias are the most popular flower in America today. They have come to the front in the last twenty years, displacing the former leaders, which were nasturtiums and sweet peas.

Each of the popular leaders has outstanding merits, that of the petunia being profuseness and long season of bloom. Though so slow to begin that seed is usually sown early under protection, the petunia never stops blooming until frost kills the plant.

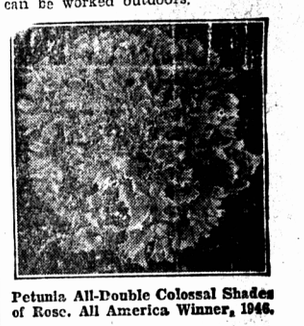
Unlike other annuals, petunias do not seem to mind failure to pick off faded flowers. Where many annuals stop blooming, once they have begun to mature seed, the petunia keeps right on; which may be due to the fact that a great percentage of its flowers make no seed.

Double petunis never bear seed; Pollen from them must be carried to single flowers and seed from the usual cross produces both double and single plants. But all-double petunias, grown by a method which still is secret, have now been produced, and one of them, All double Colossal Shades of Rose, won a silver medal in the All-American trials for 1946.

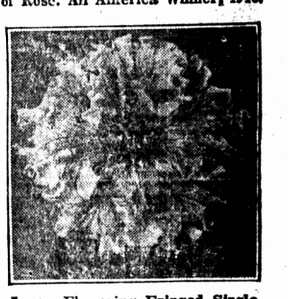
The secret of breeding all-double petunias was first discovered by a Japanese, and until the war the only all double seed came from that country. Now the method is known in this country, and many all-double varieties of American origin may be expected.

Most widely planted petunias are the small flowered singles, in many tones of red, pink, lavender and blue-purple. There are no really yellow petunias, though some varieties have a tinge of cream. Some small flowered singles are very dwarf in habit, and others make large mounds covered with blossoms. Some large flowered single varieties have fringed petals; and there are balcony types, which trail festoons of color from window boxes.

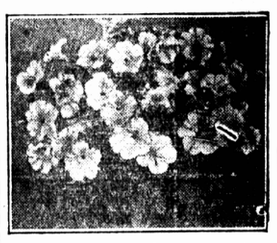
Double petunias and the large flowered fringed types are often grown by florists to make pot plants. They are also used effectively as cut flowers. But wherever a mass of pleasing color is needed all summer long, the small flowered single petunis will supply it with less care and better than almost any other annual, in most sections of this country. The seed is hardy, and often lies in the soil over winter and comes up in the spring. But it takes so long to mature, that if early flowers are wanted it should be sown under protection, six to eight weeks before the ground can be worked outdoors.



Petunia All-Double Colossal Shades of Rose. All America Winner, 1946.



Large Flowering Fringed Single Petunia.



Small Flowered Single Petunias. Widely Used for Garden Borders.

*"Old George Taylor always gets top prices for his potatoes. I wonder how he does it?"*

"He treats his seed with Semesan Bel. It's grand protection against scab and Rhizoctonia—it gives him bigger yield and better quality too."

SEMESAN BEL

controls Rhizoctonia and seed-borne scab of potatoes. Helps you get maximum yield and quality.

BUY FROM C-I YOUR DEALER



EASY LIFTING! EASY TURNING!

Lighten dairy chores with a Renfrew Cream Separator, with waist-high supply can and crank at just the *right* height for easy turning. A clean skimming Renfrew gives more cream and butter, has greater capacity and longer life, yet costs no more than ordinary makes. Ask your Renfrew District Representative to demonstrate a Renfrew in your dairy.

This year get a NEW Renfrew CREAM SEPARATOR (Hand or Electrically Operated)

Also BARNES • TRUCK SCALES WASHING MACHINES

THE RENFREW MACHINERY COMPANY LIMITED

Renfrew, Ont. • Sussex, N.B. • St. Johns, P.Q. • Regina, Sask.



## ANNOUNCEMENT

We are taking over the Seed business formerly owned and occupied by CARTER & CO., and are now open for business at their old stand 72 Queen Street. Known for many years as CARTER'S SEED and FEED STORE in addition to our regular line of field, garden and flower seeds. We handle as well Ross Miller and Gains Dog Food. Also Dog remedies, Poultry Supplies, Electric and Coal Burning Brooders, Bird Seed and remedies, Garden Tools, Plants in Season—Gladiolis and Begonia Bulbs, Gardenite, and Wizard brand sheep manure for lawns and gardens.

HALIFAX SEED CO. LTD.

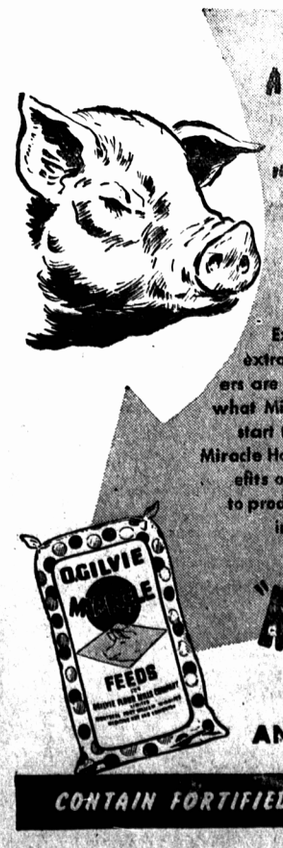
72 QUEEN STREET

CHARLOTTETOWN

PHONE 1428

3-16-18-21-31.






Extra profits...extra profits... extra profits! That is what feeders are calling for...and that is just what Miracle Hog Feeds give. From start to finish raise your hogs on Miracle Hog Feeds and enjoy the benefits of a feed scientifically tested to produce maximum results. Leading dealers carry a complete line of Miracle Hog Feeds.




"MIRACLE"

HOG FEEDS AND SUPPLEMENTS

M-48-B

CONTAIN FORTIFIED GROWTH FACTORS