

# Agricultural News

P. E. I. Department of Agriculture

## UNBURIED TREASURE IN

Wheat farmers long ago discovered that when wheat straw and stubble were plowed back, the yield of the following crop went down. So, they burned the straw and stubble or else they plowed it down, harvested lower yields and thought nothing could be done about it.

Today we know why plowed-down stubble depressed yields. With this knowledge we can turn this crop refuse into unburied treasure!

The explanation is found in the life processes of the bacteria that live in the soil. These bacteria produce humus which is organic matter containing nitrogen in the matter containing nitrogen in the soil. Nitrogen, of course, is one of the elements vital for crop production. Here is the sequence: SOIL BACTERIA AND ORGANIC MATTER PRODUCE HUMUS, WHICH RELEASES NITROGEN FOR GOOD CROP GROWTH.

The bacteria produce this by decomposing plant material such as wheat straw and stubble containing a high amount of the element, carbon. To do this, the bacteria themselves must be supplied with food in the form of nitrogen and lime. They require a definite proportion of nitrogen to the amount of carbonaceous material they are to decompose. This proportion is about one part of nitrogen to twelve parts of carbon. When living organic matter and soil containing this proportion of the two elements, the bacteria flourish. A crop growing in this kind of an environment is provided with a continuing source of nitrogen.

WHAT HAPPENS WHEN STRAW AND STUBBLE ARE PLOWED DOWN.

Now let's see what happens when wheat straw and stubble are plowed down.

Straw has a very high carbon content and a low nitrogen content. The ratio is often as high as one part of nitrogen to 40 or 80 parts carbon. When such material is plowed down, the nitrogen-carbon ratio of the soil is bound to be upset. Because the bacteria are suddenly confronted with a high amount of carbon, they immediately create a tremendous demand for nitrogen to feed themselves while they do their job. Whatever nitrogen is in the soil at the time of plow-down will be taken up by the bacteria, depriving any crop growing in the soil of nitrogen.

Naturally, poor crop growth and low yields result. That's not all that happens. Such unfavorable conditions cause decomposition to proceed very slowly. Eventually, a 1 to 12 nitrogen-carbon ratio will be established but until this happens, crops suffer from lack of nitrogen. Also, because the bacteria are starved for nitrogen, they cannot do their job quickly and completely so much of the turned under carbonaceous material is lost by a process called "oxidation". Oxidation is a chemical reaction in which the carbon in the wheat straw combines with oxygen to form a gas, carbon dioxide. This gas escapes from the soil and the result is that much potential humus is lost.

WHAT HAPPENS WHEN STRAW AND STUBBLE ARE BURNED.

Burning certainly disposes of excess carbonaceous material without loss of mineral elements. But, it also removes the raw material-crop refuse from which humus is produced. Humus is the backbone of all productive soils and no soil is fit for agricultural use unless it contains a good supply. Burning crop refuse is an extremely wasteful practice and in the light of modern knowledge of plant fertilization, is entirely unnecessary.

Here now is a more complete diagram of the "straw-stubble problem", nitrogen, lime feed the soil bacteria, which decompose straw-stubble and produce humus containing available nitrogen for the good crop growth.

LOSSES IN PIGS

Management which controls worms also prevents many other diseases. Routine treatment for worms is not advisable for the following reasons: When a pig is badly infested with worms much damage has been done already, and efficient treatment requires a drench composed of chenopodium and castor oils; drenching pigs is not easy; and when attempted by an inexperienced person, part of the dose may reach the lungs, resulting in pneumonia. In properly managed piggeries there should be no reason for such treatments, since worms can be prevented with but little extra work.

Worms seldom affect pigs that were born vigorous and of normal size, that received adequate nutrition from the sow and that were kept free of goitre, anaemia, and rickets. However, it is important to combine proved methods of sanitation with other preventive measures if losses are to be avoided. A practical routine, suitable for conditions in Canada, may be summarized as follows:

Prepare farrowing pens by removing all manure from the floors, walls, farrowing rails, platforms

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## WHEAT STRAW AND STUBBLE

parts troughs. Thoroughly scald the parts free from manure with liberal amounts of very hot water. The addition of one or two table-spoonfuls of lye to each pail of water makes it more efficient.

Allow the pen to dry and then bed it with clean straw. Two or three days before a sow is due to farrow, brush her off thoroughly and wash her teats and udder with warm water and soap - remembering to dry her afterwards. Move her into the clean pen. A few days after farrowing, move the sow and litter out to clean pasture, away from the barnyard. Keep the young pigs on clean pasture, providing a temporary shelter, feed and water, until they are at least 14 weeks old.

Weaning  
A sudden change at weaning time to a "growing ration" may cause serious digestive disturbances, the symptoms of which are a persistent yellowish diarrhoea and loss of appetite followed by general unthriftiness. Prevent this trouble by making only gradual changes of diet and do not wean until the pigs are fully accustomed to solid food. Affected pigs, if treated promptly, will usually recover. An exclusive diet of clovered sour milk, some ground alfalfa and water, for a short period is usually effective.

Summary of Loss Prevention

1. Provide iron to prevent anaemia in suckling pigs.
2. Pigs are not vegetarians. See that the diet contains a sufficient amount of animal protein.
3. Provide minerals and sunlight (or feeding oil) to prevent rickets in weanlings.
4. Give iodine to the sow to prevent goitre and hairlessness in the young.
5. Sterilize the farrowing pen with scalding water to prevent worms.
6. Change diets gradually to prevent digestive disturbances.
7. Avoid respiratory diseases by housing pigs in buildings reasonably warm, dry and free from draughts.

THE 4-H MOVEMENT

At the present time there are eleven 4-H clubs in Prince County. Ten of these clubs are 4-H calf club (predominantly Holstein) and one is a 4-H potato club located in O'Leary. This is the only potato club on Prince Edward Island. Members are taught the various varieties of potatoes, disease control and cultivation practices. In Queens County, there are five 4-H calf clubs (predominantly Holsteins and Ayrshires) with two Shorthorn beef clubs. In Kings County, there are six 4-H calf clubs (predominantly Ayrshires).

WHY CALF CLUBS:

Four-H calf clubs benefit rural youth in various ways. Rural youth, as the 4-H club motto states, "Learn to do by Doing." Four-H members hold regular monthly meetings where they learn parliamentary procedure and the correct way to conduct meetings. They learn to work together for the benefit of their club as a whole. They learn the proper husbandry methods in the feeding and management of dairy calves, poultry, the cultivation and the tilling of the land for garden and grain crops. Each year each club participates in public speaking and debating contest. This training equips our rural youth how to express themselves before meetings and gives them confidence and self-expression.

NUMBERS OF CLUBS:

Since 1931 the 4-H club movement in Canada has increased by leaps and bounds until at the present time there are widely scattered all over the world. In Canada the 4-H club movement has its head quarters in Ottawa, Ontario and is sponsored by many different large business organizations in Departments of Agriculture throughout Canada.

CLUB TOURS:

Each year deserving members from the various clubs are rewarded for their efforts by a two-day tour to various centres and points of interest in the Maritimes. Five teams (two members per team) are selected on the basis of their ability to judge dairy cattle and on practical oral questions concerning the feeding and management of livestock to go to the Amherst Winter Fair and one team from the dairy clubs, one from the poultry clubs, one from the poultry clubs and one from the garden clubs to represent the Island

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ENGAGEMENT—Mr. and Mrs. Charles F. Worth, Weymouth St. wish to announce the engagement of their youngest daughter Betty Lou to John Carlyle son of Mr. and Mrs. John R. Turner of Charlottetown. Marriage to take place in the near future.

at the Royal Winter Fair in Toronto in the National 4-H contests held in Ontario each year. BANGS DISEASE:

This year a special effort has been made to have all 4-H calves vaccinated against Bangs Disease as a step in the right direction. To date about half of the calves in the clubs have been vaccinated and arrangements have been made to vaccinate the remainder of the club calves as they reach the age between six, seven and eight months.

CALVES:

There has been a definite trend in the 4-H clubs to go out and purchase high quality pure bred calves each year and at present some 4-H calf clubs consist mostly of pure bred animals. Each year the club member purchases a pure bred calf and gradually accumulates a number of pure bred stock which should allow our rural youth to get away to a good start as future farmers as the 4-H club calves are owned by the club members themselves.

THE 4-H CLUB FUTURE:

Four-H club work not only in Prince Edward Island but all over the world is becoming more popular as time goes on because rural youth realize the tremendous benefits that are to be derived from 4-H club work in the training they receive for the future.

"CLUB NEWS"

The regular meeting of the Brackley Point Seaside 4-H Calf Club was held in Harrington Hall on August 23rd. The meeting opened with the 4-H club pledge, followed by the roll call. The minutes were then read and approved. It was decided to hold an "Achievement Day" on either the 8th or 9th of September in Harrington. A discussion then took place regarding the public speaking contest which will be held on September 15th. The meeting was adjourned, followed by the program.

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Wednesday, Sept. 7, 1955

### Blushers Will Blush At This

BRISTOL, England (AP)—People who blush too easily are "rather fickle in their affection and don't find it easy to feel affectionate toward others," a British psychologist said Tuesday.

Dr. Joseph Sandler of London's Tavistock Clinic also told the British Association for the Advancement of Science that generally bluishers don't like jazz music because they think "it is an invitation to be uninhibited."

Blushers, he said, "not only fear being seen but feel guilty if they see things they are not supposed to see." But the normal blush fulfills an important function in the propagation of the human species—"a sign of interest and reception and a readiness to be courted."

### Fruit Crop To Be Larger

OTTAWA (CP)—This year's crops of apples, pears, plums and prunes, peaches and cherries will be larger than in 1954, the bureau of statistics reported Tuesday in its second estimate of fruit production. The estimate revises figures in a preliminary estimate Aug. 8. The crops of apples, pears and peaches will be larger than anticipated earlier, while those of plums and prunes, apricots, cherries, strawberries, raspberries and grapes are below last month's forecast.

The apple crop is estimated at 17,646,000 bushels, up from the 14,500,000 bushels last year. Gains are expected in all apple-producing areas.

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