

# Soils and Crops

By Agronomist.

This Department is for the use of our farm readers who want the advice of an expert on any question regarding soil, seed, crops, etc. If your question is of sufficient general interest, it will be answered through this column. If stamped and addressed envelope is enclosed with your letter, a complete answer will be mailed to you. Address: Agronomist, care of Wilson Publishing Co., Ltd., 73 Adelaide St. W., Toronto.

## Can The Race Live Without The Cow?

Certain scientists have maintained that milk and butter were not absolutely necessary foods. They see the time when cheaper substitutes will take the place of milk and butter-fat. The oleomargarine people have had this vision for some time and the scientists of Germany have claimed they could produce a substitute for milk from soy beans which could not be detected from actual cows' milk except by careful analysis. Vegetable oils and the cheaper animal fats can be produced much cheaper than butter-fat, so also this milk substitute from soy beans can be produced much cheaper than cow's milk, consequently, the time is coming when economic conditions will cause substitution of these cheaper products for the milk and butter-fat of the cow.

But another scientist, working along different lines, has proved that a certain element of butter-fat is absolutely necessary for the growth of children and health maintenance of adults. This man, Dr. McCollum, of Johns Hopkins University. By careful experiments covering the period from 1907 to 1917, Dr. McCollum proved there are two what he calls "protective foods." Without a certain amount of these protective foods in the diet children cannot develop, neither can adults maintain vigorous health. It used to be thought that a diet of tubers, grains, roots and meat could be made a perfect diet but the experiment of Dr. McCollum in feeding various foods to young animals for these ten years proved that they cannot develop unless these protective foods are used.

And these two "protective foods" are obtained so far as known at the present time from only two sources—the leaves of plants and the butter-fat of milk. If people could consume enough of the leaves of plants

they could get along without butter-fat, but this is not possible and consequently to have vigorous health butter-fat must be a part of the ration. Dr. McCollum has called this protective element the "Fat Soluble A."

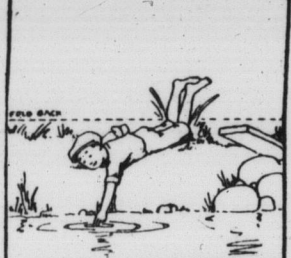
Many people to-day are hailing Dr. McCollum as the saviour of the dairy industry because he has proved to the world that the dairy cow is necessary to the maintenance of human life in a vigorous condition. The only argument against oleo up until now was that butter-fat was more easily digested than the animal and vegetable fats used in oleo; it would melt at a lower temperature. Observing people had noticed that young children did much better when a part of food contained butter-fat and attributed it to the fact that butter-fat was more easily digested and assimilated. But Dr. McCollum's experiments indicate the reason was because butter-fat contains this vital element, fat soluble A) which is not found only in the leaves of plants, consequently it is the best argument against the substitution of oleo.

The medical profession, public school teachers, colleges, universities and the reading public now understand this idea and are spreading the word of truth so it will only be a short time before intelligent citizens understand this idea and when they do they will hesitate before they substitute oleo for butter, even though it is much cheaper.

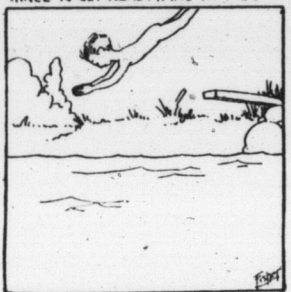
The dairy cow will not be put aside because we can imitate her products. She is necessary to civilization and no matter what comes, she is destined to endure. When the people understand the importance of butter-fat in a diet, especially children's, they will be willing to pay a sufficient price for whole milk and butter-fat, so that the dairy industry cannot be driven to the wall by cheap substitutes.

## FUNNY FOLD-UPS

CUT OUT AND FOLD ON DOTTED LINES



THE SUN IS BRIGHT, THE WATER'S WARM. I THINK A SWIM WILL DO NO HARM. SO ONE FOR THE MONEY, TWO FOR THE SHOW THREE TO GET READY, AND IN I GO.



## Topics in Season.

Madonna lily bulbs may be planted this month. Most other bulbs should not be put into the ground until October.

Before frost, make cuttings of the heliotrope, verbena and other tender plants which you will want for setting out early next spring.

The Italians have manufactured a substitute for sugar. It is derived from grapes by evaporating the juice. It is said to be particularly valuable in the preservation of fruits.

The French Department of Agriculture reckons that a toad is worth \$9; a lizard, \$9; a swallow, \$20; a titmouse, \$8; a robin, \$4; a bat, \$50; an owl, \$12.

All the refuse of crops that are through fruiting should be burned as soon as dry enough. Cabbage stumps, cucumbers, melons, tomatoes and the like should not be left to decay.

The strawberry bed still needs cultivating. Keep busy until the ground freezes. Light frosts do not count. September is housecleaning month in the garden, and a good cleaning up there is just as necessary as in the house. The most important thing is to prevent weeds going to seed.

To control white grub, plow the infested soil deeply before October 1, and while plowing turn the poultry or hogs into the field to destroy the grubs.

Lay aside the apples that fall off when you are picking and do not put them in with the first-grade fruit. The slightest bruise will shorten the keeping qualities.

Did you forget to cut out and burn the blackberry and raspberry canes that have fruited? Better now than never!

A recent Swiss decree provides for compulsory crop production by all land-owners, with the 1914 acreage as a minimum. All grain growers who fail to deliver the required amount in to the hands of the authorities must pay four-fold the maximum price as indemnity for their deficiency.

Ripen late tomatoes by pulling the vines and letting them lie with the fruit on in a cool shed or in the basement. Many of the fruits will ripen. Cover the vines in the garden with blankets when frost threatens and you may be able to save them for a week or two.

When frost has touched the tuberoses, elephant's-ear and Madeira vine, take up the bulbs and store them. When dahlias and cannas are frost-bitten, cut off the tops, leaving about six inches of the stems. Remove the roots in a clump with dirt attached. Spread roots out in the sun to dry, then store in a dry, well-ventilated cellar, on the floor or on shelves. Keep the varieties labelled.

Weevils may be killed in beans and peas by the use of carbon bisulphide. To treat these put them in a jar, tub or other vessel which can be covered tightly. Put into a glass about one tablespoonful of carbon bisulphide for each ten gallons of space in the enclosure, and place the glass in with the beans. Allow them to remain in the fumes of the carbon bisulphide over night, then take them out and place in dry storage quarters. Do not take lamps or lighted matches near the material, and do not breathe the fumes.

Save The Seeds. It is not difficult to save the seeds of annual vegetables for next year's gardens. They must be thoroughly dried before they are put away for the winter. Spread the seeds thinly in a dry, airy place, out of the sun, on a sheet of paper until they are dry; do not use heat. When dry store where there is little variation of temperature. If moist when stored or allowed to collect moisture they will become mouldy or start to germinate. Flower seeds may be saved in the same manner.

To renovate velvet with salt—Rub it briskly with damp salt and then brush with stiff brush. Works well with velvet hats.

## Horse Sense

Prices of horses have been advancing steadily. War interfered with horse-breeding operations in France and Great Britain and drew heavily on their existing supply. It is reported that in Great Britain heavy draft geldings are bringing from \$800 to \$1,000 each. Tractors are being used in hauling munitions and drawing artillery because enough horses cannot be secured for that work. There will be large shipments of horses abroad after the war, which will take some of our heaviest and best animals.

For that reason, it is essential to take good care of every colt. The most critical time is at weaning. Large numbers of stunted colts get their first set-back when taken from the mares in the fall. Teach the colt to eat grain, if it has not already learned, and when once taken from the mare, do not let it return. Letting it get back to the mare after starting to wean it may ruin the mare, and it will make the colt mean. Milk out the mare's udder for a week or so, and if it becomes caked apply lard.

## The Dairy

No single piece of farm machinery has increased more in use in the last two years than the mechanical milker. In this country, where the labor shortage became critical early in the war as a result of the enlistment of farm laborers, the milking machine is the one thing that has averted a disastrous drop in dairy production.

On hundreds of Canadian farms women, with the aid of this machine, do the milking. As the war progresses, many more dairy farmers will be compelled to adopt the milking machine, or curtail operations, or go out of business. The dairyman who thinks the initial investment is too great or the cost of upkeep too high makes a mistake.

In the United States a leading western dairyman who has 100 cows has operated a milking machine of six units for four years. To-day the original parts, all but the rubber portions, are still in use. The rubber parts were renewed nine months ago. On another farm where forty cows are milked, upkeep cost has amounted to \$10 in four years. Still another dairyman, who has used a milker three years for a herd of thirty cows, spent \$3 this year in placing the machine in first-class order.

Potted strawberry plants set out now will produce fruit next season the same as field grown plants set out last spring.

**WANTED** POULTRY, EGGS AND FEATHERS. Highest Prices Paid. Prompt Returns—No Commission. P. POULIN & CO. Montreal.

## Sheep Notes

Returns from sheep are quick and profitable. It is not necessary to keep a ewe lamb a year before it returns a profit. A lamb weighing seventy-five pounds and costing twenty cents a pound, will clip five pounds of wool next spring. At seventy cents a pound the wool would be worth \$3.50, or twenty per cent. of the original investment. At the end of that time the owner will have a ewe worth more for breeding purposes than the average ewe that he could go out and buy. It is true this ewe lamb consumes a certain amount of feed which possibly should be charged against her, but since there is pasture and forage going to waste on every farm each year, it is hardly necessary to exact a heavy feed bill.

Many people find it possible to keep one sheep for each head of cattle their pastures will carry, at no additional expense. If they could all be convinced of the actual need for a greatly increased supply of wool next year, many of them might adopt such a practice very much to their own profit and to the assistance of the Government. When sheep are properly handled they are mortgage lifters and bring thrift.

Candy Makers On Half Rations. Candy manufacturers in Canada have used, in the past, eleven per cent. of all the sugar consumed in Canada. This has been reduced to a maximum of 5 1/2 per cent. by the Canada Food Board, owing to the sugar situation.

## The Farmhand's Wages.

The farmhand comes in for considerable discussion nowadays, but he is much better off than most people think. The Council of Defence of the State of Ohio has been making a survey of labor conditions, and reports that a married man working on the farm for \$30 a month is as well off as if he were to receive \$105 in a city; that a \$35 a month farm job equals a \$110 city job; that a \$40 farm job equals a \$115 city job, and so on. "Not taking into consideration," the report adds, "the possibility of raising some stock or produce on shares, which is usually customary."

Nor has the married man on the farm job a monopoly of advantages, for the report further finds that an unmarried farmhand receiving \$25 is as well off as if he were receiving \$80 in the city; that a \$30 job for the bachelor farmhand equals a \$90 city job; and that a \$40 job on the farm is as good as a \$95 job in the city, and so on. The difference in aggregate returns is brought about by house rent, groceries, meat, milk, light, fuel, unnecessary expenses, and luxuries.

A few reports like this regarding conditions in Canada would have good effect in turning the tide toward the land once the war is over. For the last three or four years it has been running cityward strongly. As city labor was taken for the army, for the shipyards, or in the natural course of advancement, farm labor has been called upon to make up the deficiency. Wages are advancing as a natural result, so that the farmhand who received \$25 or \$30 a few years ago is now drawing down his \$40 every month—as good, the Ohio investigators say, as \$95 or \$115 in the city, depending on whether the man is married or not.

Some day Canada is going to take the steps necessary to enable the farmhand and the farm tenant to secure farms of their own. The help may come in the way of advance loans on land, stock or machinery purchased, or in grants to soldiers returning from war service. It is inevitable that it is coming. When that time comes the farmhand will loom larger on the industrial and economic horizon than ever before, and he is no inconspicuous figure even now.

In the meantime the duty devolves upon him of giving good service and saving every penny for the opportunity which will undoubtedly be his in the near future.

## Raspberry Rust.

Spraying with potassium sulphide arrests the spread of the disease, which will appear every season. The best plan is to pull up and burn the plants and all diseased leaves that have fallen. Set out new healthy plants in a different part of the garden. Spray the new plants several times each season with weak Bordeaux mixture; if used full strength the foliage will be scorched.

System in canning saves more than the product.

## GOOD HEALTH QUESTION BOX

By Andrew F. Currier, M.D.

Dr. Currier will answer all signed letters pertaining to Health. If your question is of general interest it will be answered through these columns; if not, it will be answered personally if stamped, addressed envelope is enclosed. Dr. Currier will not prescribe for individual cases or make diagnosis. Address: Dr. Andrew F. Currier, care of Wilson Publishing Co., 73 Adelaide St. West, Toronto.

## Physical Changes Which Take Place After Middle Life.

By middle life the tissues of the body have reached the culmination of their development and from this time forth the period of degeneration has its turn. That which is most to be dreaded from this point onward is malignant disease. Organs which have been overworked or abused, the stomach, lip, tongue, intestine, and in women the breast and uterus, now may become cancerous, and other organs or portions of the body which may be subjected to more or less persistent irritation are in danger from the same merciless enemy. The arteries of the body are susceptible to degenerative changes from middle life onward, either undergoing softening or becoming harder by the formation of new tissue or the deposit of lime salts within their walls in the latter case becoming brittle like pipe stems. In any case the arteries become perilously weak and the degenerative changes take place so gradually that they are usually quite inappreciable to the patient. Should the heart of a patient who is thus diseased become suddenly or unusually active the extra force which it happens to exert would be likely to produce a break in one or more of the weakened arteries. The arteries in the brain are particularly weak and that is why so many people who have passed middle life have apoplexy.

This is also the period of rheumatism, and neuralgias and gout and of obesity which makes people clumsy and awkward and ill adapted to endure pain and stiffness of joints, muscles, and nerves.

In this period also are the diseases of the bladder and prostate gland accompanied not only with the annoyance of frequent calls to evacuate the bladder but with pain, haemorrhage and other disagreeable symptoms. Sometimes these things can be prevented and sometimes not. Perhaps they are penalties for past sins which may not be escaped and the best you can do is to watch them and try and make the symptoms as mild as possible. Malignant disease may sometimes be forestalled by removing elements of irritation, curing indigestion, omitting unsuitable food, keeping

the teeth in good condition, forsaking pipes, cigars and cigarettes. Sleep must be encouraged at all cost. It is more important than food, and if there is worry it must be unconditionally dismissed. Exposure to cold and wet and even changes in the weather are sure to bring on rheumatic troubles, hence the clothing must be adapted to the season and suitable medical treatment afforded. Increase in the blood pressure means change in the arteries, hence tests must be made from time to time and suitable exercise, diet and mechanical and physical treatment prescribed. Diseases of the bladder and prostate gland are amenable to relief in their early stages hence the first appearance of trouble is a danger signal. Frequent urination by one who has any of these diseases or tendencies must change the entire current of his life, give up his occupation, change his residence, or be separated from his family and friends. These hardships are often justified, however, in the relief they afford to bad symptoms and the months or years they add to life with corresponding increase in happiness, usefulness and power of influence.

## Questions and Answers.

X. Y. Z.—1—Does indigestion affect the nerves?

2—Which solid foods are best for indigestion?

3—Does butter affect indigestion?

4—What part of dandelion is used for medicinal purposes, and how?

5—Am forty, weigh 168 pounds and am five feet and six inches in height. How could I reduce my weight?

Answer—1—It very often does.

2—The question is too general. Indigestion is relieved in one person by omitting one kind of food, and in another by something else.

3—If you mean by your indigestion: "Does butter cause indigestion?" my reply would be that good butter seldom does.

4—The root of the plant is useful, and also an extract is made from the leaf, which is often used as a mild kind of vegetable tonic.

5—I would not advise you to attempt to reduce your weight. There is nothing out of proportion.

## Canada's Answer.

"The Canadians have made for themselves an imperishable name in the history of arms; they have been associated with many of the most glorious passages in the record of the war, and there is no force fighting for the Alliance which has a richer share

of honor," says the London Telegraph.

"Four years ago Canada had an army of barely 3,000 men. Since then 400,000 men have crossed the sea to fight in the ranks of the Canadian corps, and to-day it is over its strength. That fact is announced by the Duke of Connaught."

## The Plain Truth about Shoe Prices

LEATHER is scarce and is growing scarcer. A large part of the available supply must be used for soldiers' boots. Importations have practically ceased and we are forced to depend upon the limited quantity of materials produced in Canada.

The cost of everything which goes into a pair of shoes is high, and is going higher. Workmen by the thousands have joined the colors, and labor is increasingly hard to get. It is not merely a matter of high prices, but of producing enough good quality shoes to go around.

These conditions are beyond the control of any man, or any group of men. They fall on all alike. No one is exempt—neither the manufacturer, the dealer, nor the consumer.

You must pay more today for shoes of the same quality than you did a year ago. Next Spring, prices will be higher still.

These are hard facts. They will not yield to argument. They cannot be glossed over. We cannot change them, much as we would wish to do so.

But you, as a wearer of shoes, can help to relieve them if you will exercise prudence and good judgment in purchasing. See that you get real value for your money. Spend enough to get it, but spend nothing for "frills."

See that the manufacturer's trade-mark is stamped upon the shoes you buy. High prices are a temptation to reduce the quality in order to make the price seem low. But no manufacturer will stamp his trade-mark upon a product which he is ashamed to acknowledge. Remember this, and look for the trade-mark. It is your best assurance of real value for your money.

## AMES HOLDEN MCCREADY

"Shoemakers to the Nation"

ST. JOHN MONTREAL TORONTO WINNIPEG EDMONTON VANCOUVER

When you buy shoes look for—



—this Trade-mark on every sole

## POISON OR POETRY?

By Louise White Watson

Quite recently the question was agitated at a teachers' convention as to the advisability of teaching literature that is "over the pupils' heads." Much discussion, pro and con, followed.

What is there that is good that is not over our heads? The stars, heaven's promises, God himself! At what age, then, should these subjects be brought forward? We all know that the earlier beautiful impressions are made, the more indelibly they are imprinted on receptive brains. Fill the mind with the beautiful if you would crowd out the evil! For it is when youth's pennant is flying that the teacher is enabled to plant for a lifetime.

An instructor in one of the middle grades recounts her efforts to inculcate into the minds of her children some of the masterpieces of Shakespeare. She wisely eliminated all acts and scenes, making fascinating stories of the plays. In a very short time they were familiar with the different plots and characters, and most apt with many applicable quotations. Memorized them—though over their heads—the children retained the quotations for years, probably for a lifetime. Was that teacher gratified with her after-harvest, when she learned that many a dance had been refused that a "feast of Shakespeare" might be substituted? Truly!

Every morning during school sessions, that teacher wrote on the blackboard some beautiful selections from different authors. Five minutes before dismissal for the day, two or three slips were drawn from the pile containing the names of the different pupils. Those whose names were drawn recited the literary gems—but all had been prepared. Although there was no place in the course of study for this period, she made one. And that without interfering perceptibly with the daily program. Once a child learns the beautiful, rhythmic, swinging language of the world's sweet singers, the thirst has been created that will never again be satisfied save from the same source.

A lady was obliged to spend some time in a little wayside station. It was simply an open shed, but it commanded a beautiful view, satisfying in its blissful promises and restful to overtired eyes. While waiting she turned back into the little shed where her attention was caught by numerous writings on the painted walls. Curious as to whether they were uplifting or the opposite, she made a tour of the shed. Obscene language met her eye in every direction until, soul-weary, she turned again to the grand outlook, the hopeful uplift. Here again her attention was arrested by seeing two different handwritings. One was a regular scrawl; the other directly underneath, was neatly pencilled. She drew near. The first was most objectionable; the other read:

"Count that day lost whose low descending sun Views from thy hand no worthy action done!"

An opportunity had been given—that of passing a thought on to another; but how differently it was used. One person had been taught the beautiful; the other had been fed on husks! Whose fault was it? Was it yours, teacher? Was it yours, parents?

There are many long hours—pain-filled, brain-perplexed, heart-weary—for life's travellers. Have you helped to supply them with nourishing thoughts that will enable the travellers to meet with calmness the disquieting demands? What of the boys "over there," able-bodied, fun-loving, fearless-hearted, doing not their bit, but their all? What of the nights for those boys on lonely guard, or lying on the white cot of pain and mother-longing? Teacher, parent, have you shielded them as best you could, by fortifying them with a wealth of inspiring, hopeful, encouraging words of the world's great thought-givers? Have you strengthened them for the long weary nights when the breath of boys is lonely, depressed and hungering for the far-off home? What of life's night when we all must await our summons? Can we, through another's beautiful influence, see the coming dawn?

## We Live Because Britain Died.

England was no more a military nation than America when the war began, says the Philadelphia Public Ledger. She learned to fight by fighting—and dying. We are profiting to-day by her tragic experience. Thousands of American lads will come home to us alive and whole because thousands of our British brothers from the British Isles have been killed and mutilated—and have taught us how to escape. Britain made her armies while France and her own navy held the gap, and then she poured them into France and Flanders by the million, to fight back the eruption of Cave Men that threatened to submerge civilization.

Do not permit rhubarb plants to go to seed. Cut out the seed stalks.

A thick slice of ripe tomato, it is said, placed over an ink spot on white goods will remove the spot, and peach stains wet with cold water spread thickly with cream of tartar and placed in the sun will disappear.