

Soils and Crops

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

Stopping a Big Leak in Farm Profits

One of the largest leaks in farm profits occurs in the handling of manure. Generally manure is dumped on the ground in the barnyard just far enough from the barn so as not to be in the way. Here it accumulates from early fall until spring without the protection of either a canvas floor, under it or a roof of any sort over it. The result is that the chemicals that are valuable as plant food leach away, due to the rains and melting snows, so that when the manure is taken to the fields in the spring the most valuable part of it is gone. His crops are then deprived of a great amount of plant food and the resulting decreased yield in crops brings him smaller profits.

A good way to stop this leak in farm profits is to have a good arrangement of stables in the basement of the barn. A progressive farmer, friend of mine has planned the basement of his barn especially to conserve manure. He has everything conveniently arranged. The barn is 38x50 feet. Two alleys, each four feet wide, extend the length of the barn next to the walls. These alleys are elevated two feet higher than the rest of the floor. Like the entire basement floor, they are constructed of cement. This elevation is for convenience in feeding the animals; it's easier to shovel down than up, my friend says.

On one side of the barn directly next to the alley is a feeding box two feet wide and extending the length of the barn. Ensilage or other feed is simply pushed off the edge of the alley and it falls directly into the feeding box. Each animal is allowed a space 34x6x6 feet. Patent stanchions are used. Six and one-half feet back of the stanchions a cement floor drops eight inches. This forms a trough which gradually slopes upward until the floor level is again reached—a distance of about two feet.

On the other side of the barn are the horse stalls. There are single stalls for four horses. Back of the stalls is a trough similar to the one on the other side of the barn. The rest of this side is taken up by box stalls. In the center of the basement floor is a driveway measuring eleven feet wide from trough to trough. My friend simply drives into the barn with his manure spreader and loads the manure directly into the spreader from the troughs on each side of the driveway. All liquid manure is absorbed by the bedding, and by being loaded to the fields every day practically 100 per cent. of the fertilizer reaches the fields where it is available for the crops.

You ask: "What does my friend do when the weather or the rush of work does not permit hauling manure direct to the field?" The answer is this: The barn is a bank barn with an overhang in the barnyard. When manure can not be hauled directly to the field it is hauled out from the stalls in a litter carrier and distributed over the ground under the overhang. Here the stock tramp the manure.

On another farm where there is a bank barn the stock are housed during the entire winter and the manure is dumped under the overhang each day. During the day the cattle are turned out into the barnyard. The length of time that they are allowed to stay out depends upon the severity of the weather and the degree of shelter afforded by the wall and covered portion of the yard. Where the shelter is complete, the stock, even the dairy cows, may stay out all day. The feeding usually is done in the stable, which is kept well bedded with straw and refuse from the mangers. During the latter part of April or early in May, depending on the season, the cattle are turned out to pasture, where they remain until seed weather begins in the fall, except in the case of the cows, which are in the stable each day only long enough to be fed and milked. Hens are housed at all in summer, while sheep are usually shot up at night as a protection against dogs. Nearly all manure produced on the farm accumulates in the manure yard. The largest part of it comes from the stables and is distributed in the covered portion.

All cornstalks, straw and other roughage not used as bedding are added as needed to take up excess liquids. In this way the covered portion of the barnyard not only affords a dry and comfortable shelter for the live stock during the winter months, but it protects the manure so that no leaching occurs. In some instances the corn fodder is run through a cutter, which increases its power of absorption and makes the manure easier to handle.

The manure of the stock needs the manure so that its even temperature is obtained which seems to favor proper fermentation, as is evidenced partly by the strong odor of ammonia which pervades the atmosphere in the vicinity when the manure is being removed, and partly by absence of fire-fungus so common in manure piles exposed to the weather.

Land plaster may be sprinkled on manure handled in this way, the amount ranging from one to two tons a year, applied at the rate of a bushel a week. Disintegrated field spar rock can be used with good effect, but as a general thing the manure need not be treated with chemical fertilizers. It

is not even necessary to turn the manure over.

There are many farms which have bank barns, and on such farms the foregoing practice is all right. This plan of allowing the stock to tramp manure can also be used in covered yards, or in sheds detached from the barn where horses or cows are stabled. Never should manure be allowed to accumulate in stalls. Manure from stalls can be taken to the covered yard by means of manure carriers.

How I Doubled My Egg Yield in Four Years

If you were to come to my farm I could show you the methods I use much better than I can write about them. For doing the things by which I have built up a high-producing strain of chickens is much easier for me than to sit down and tell how I do them. When I first started trapping I followed directions implicitly, and as I soon became discouraged at the great amount of work involved I abandoned the elaborate system of records that I had started. I then thought it necessary to carry on the work of the year through. Now I do not start trap-nesting until November or December, and continue only until March. This is the critical period in egg production, and the hen that lays well during the winter months is almost sure to be a good producer the year round. That my methods are sound is shown by the fact that I have doubled my egg production in four years without increasing the size of my flock.

The first year I found that it took so much of my time keeping the records of the different hens I abandoned the plan, and did not use trap nests at all for several years. Four years ago I decided to try out a plan which I had been thinking of for some time. What I wanted most was to have my hens lay during the winter months when eggs bring the top prices.

Good, clean, well-balanced scratch feed, little green cut bone, some green food, such as finely cut rutabagas, cabbage, or sprouted oats, with proper care and good housing, plenty of light and fresh air, are all absolutely necessary for maximum egg production. But even with all this, without a record of your flock, your hens may eat their heads off and still not be profitable.

The following is the plan which has proved successful for me. It has more than doubled my egg yield in four years: I installed the trap nests to take care of all my hens, using one nest to every two to four hens. More nests are needed than when using the ordinary kind.

I start trap-nesting in November or December, and continue into February. Each hen has a numbered leg-band. I use a card index system for all my records, and find it a saving of time, and also more accurate, to have these cards tacked up in each pen, crediting each hen with the eggs she lays. When the card is filled it is placed in the cabinet and another put up.

There is only one way to get started right, and that is to buy the very best laying strain of whatever breed you take a fancy to; or, if you already have a flock of pure-bred chickens, cull out all undersized, off-colored hens, and those showing any other defects. Have your nests installed and be sure your hens are free from lice. Don't let your hens deceive you; your best laying hens may be your poorest lookers. Beware of the hen that is always out with a fine coat of feathers, because instead of putting her energy into a good egg she is all gone into vain display. After you have finished trap-nesting and sorted out all your chickens, get them off the farm.

You should secure a good male bird, with his dam showing even a better egg record than your hens. You can't afford to go to your neighbors and trade roosters; but must get your male bird from someone you know has been trap-nesting, or you will tear your flock to pieces as fast as you build it up. If you can line-breed it is the only sure system. If several of your neighbors with the same birds will follow this system for a year or two, you will be able to secure male birds right at home.

Don't breed your pullets the first year if you can possibly avoid it; but, if you must, mate pullets to a two or a three-year-old male bird. Mate mature hens to cockerels.

My trap nests are all home-made, and cost around 25 cents each, not counting labor. Be sure you don't make them too small. Wyandottes and Plymouth Rocks need a nest 12 x 18 inches x 19 inches high.

Don't try to build up a run-down strain of chickens. Start right, then stay right, and the results of your small investment in a few good hens will surprise you.

A cow for every school in the country districts might be a good idea in view of the number of pupils who regularly carry a lunch to tide them over the mid-day period.

Hens are like people: unless obliged to work they become lazy and unproductive. Make them work for their food by scattering it in straw on the floor of the hen house.

THE CHEERFUL CHERUB

No fault's too wicked to forgive. We're all so ruled by circumstance. If we forgive our friends' misdeeds Perhaps our own will have a chance.



POULTRY

A dark poultry house is unhealthy and uncomfortable. There should be plenty of windows to let in light so that the house is bright and that the sun can shine in to warm and brighten the interior. The direct rays of the sun will kill every germ of disease that it touches and that in itself is important. Too much glass is a disadvantage because the house warms up too much in the daytime when the fowls are busy, and cools down too rapidly at night when they are on the roosts. Windows should have both upper and lower sash so that they can be lowered and raised to let in little or much air according to the outside temperature. If there is too much window space reduce it; if there is too little increase it.

Filthy air is practically breathing poison. Pure air furnishes the oxygen which keeps the life processes going and when the air becomes stale or foul, the birds become weak and sickly. The problem, therefore, is to let in plenty of air without drafts and without making the house so cold as to be uncomfortable. On almost all sunny days the windows can be opened when the flock is exercising, scratching in litter for its food, and that gives a chance to air the house thoroughly. Even in the coldest night the windows may be lowered a little at the top (very little when it is very cold) and the birds will obtain fresh air. If wind blows in, a piece of burlap can be hung over the open space through which the air can get in and by which the wind can be kept out.

An egg contains 14 per cent. albumen.

Dr. Mayo, the celebrated surgeon, says that the next forward movement to be undertaken in the prevention of disease is the procuring of clean mouths among the people. This will be a surprise to many folks, but the fact remains that the human mouth is one of the worst germ-carrying agents.

The mouth, which should be the cleanest part of the body, becomes the filthiest when neglected. There is nothing more disgusting than a mouth which is a stranger to the tooth brush, or one that is treated only occasionally to a half-hearted scrubbing with this highly necessary toilet article. A person with such a mouth, when sneezing or coughing, forces into the air disease germs which immediately become attached to dust particles, poisoning the air which others must breathe, with myriads of disease-producing germs, such as pneumonia, tuberculosis, diphtheria, tonsillitis, grippe, the common cold, and many others. Imagine, then, the result when the person drives these germs into the stomach.

Medical authorities advise us that fully seventy-five per cent. of diseases either originate in the mouth or enter the system through it. Few people have any conception of the enormous number of germs (bacteria) to be found in the human mouth. A conservative estimate, however, is that the ordinary varieties which are to be found in a diseased mouth number about fifteen. Bacteria multiply so rapidly that tens become millions in a few hours if the condition of the mouth is favorable to their reproduction.

A noted bacteriologist has estimated that in a certain unclean mouth there were not less than 1,140,000,000 bacteria. Think of the condition of the atmosphere of a room inhabited by a person with such a mouth! Some of these germs are more poisonous than the disease-producing bacteria to be found in the human mouth when in a diseased condition contains many of the most virulent germs known. This is especially true of germs associated with decayed teeth having abscesses at their roots, and those with pus which may be pressed out from around the necks of teeth. These conditions are not out of the ordinary, but are quite common. In fact, it is an accepted fact that dental disorders are the most widespread that affect the human race, and that many obscure ailments affecting the general system, such as chronic dyspepsia, gastritis, certain nervous affections and general diseased conditions of the blood as pernicious anemia, may be traced to a diseased mouth. This condition is the result of failure to use the tooth brush regularly and properly and to consult a dentist when decayed teeth or red, swollen gums are first noticed.

Fully twenty-five per cent. of the

The Dairy

Properly cooling the milk is too often a serious problem on the farm; but where nature offers the chief equipment in the way of ponds or streams and freezing weather, the problem resolves itself into the matter of a little extra work at the time when there is the least farm work to be done. Now that the fall work is rounding up and we can draw breath, let us plan for this important provision for next summer's comfort and profit.

The saving and improvement in our dairy products will well repay the cost and expense connected with providing a generous supply of ice. The comfort in the household gives a generous margin of profit. Think of the delicious cool drinks, the ice cream (all too little used on the average farm) that is a most delicious dessert as well as a refreshing food, the sherbets and ices easily made at small expense in the fruit season or from our canned stores later on, the comfort of ice in case of sickness—think of all these things, made available by work that is a sound business proposition, and wonder how we ever thought of dairy farming without ice! At least, it is "good business" to find out what we can do.

A Course for Betty.

In the course of the month that she was spending with her niece, Aunt Judy's fine brown eyes were "taking in" a great many things, most of which concerned her grandniece Betty. Betty was a darling, but she was missing too much, Aunt Judy decided. "I'm going to take Betty home with her for a visit."

Betty was wild with delight over the beautiful old house and its treasures. "What wouldn't I give to have Phyllis Freed see this place!" she cried.

"Why, I didn't suppose you liked Phyllis Freed," Aunt Judy replied innocently. "You never have her at the house like the other girls."

Betty flushed. "I just can't, Aunt Judy," she confessed. "Everything at Phyllis's is so beautiful, and we're so shabby and inartistic."

"It's a home," Aunt Judy reminded her. "You feel that the moment you step into it. Don't you think it's unfair to Phyllis to take it for granted that she can't care more for mahogany than for homes?"

"Oh, Phyllis wouldn't feel so!" Betty acknowledged.

"Then it's Betty Jarvis's pride?" "I suppose so," said Betty slowly.

"I'm going to give Betty Jarvis three object lessons," Aunt Judy declared.

"We'll devote this afternoon to her instruction."

"I'm so glad one afternoon will achieve it!" Betty replied saucily. To which Aunt Judy deigned no answer except a look.

In the afternoon the car was ordered and Aunt Judy and Betty went calling. The first call was at Mrs. Orme's. Mrs. Orme, Aunt Judy told Betty, had been very wealthy once. There were beautiful things still in her small parlor. But the call was one long apology upon Mrs. Orme's part—apology for her house, her maid, her refreshments.

"O, Aunt Judy, I'm not like that, surely," Betty cried as soon as they were out of hearing.

"I didn't say you were," Aunt Judy replied, smiling.

The second call was upon Miss Nancy Cliff, who also had been wealthy once. She lived still in the old house, but the great rooms were pathetically bare. Miss Nancy's welcome, however, was anything but poor, and she served tea and cheap wafers as if they were nectar and ambrosia.

"I couldn't learn to do it that way in a thousand years!" Betty sighed. "It was great, Aunt Judy, but you would have to be born to it."

The third call was at Mary Creel's. Mary Creel never had any possession except children, but Mary's welcome was joy itself.

"Only don't sit in that chair," she warned Betty gayly, "unless you like broken s-p-ings. You see, it's the children's Dream Chair. They go to it to pretend all kinds of things. I really think I love it better than anything in the house, but I can't expect other people to."

It was a dear time; a bit tumultuous when the children tumbled in, but so happy. No one cared about shabby rugs and chairs with broken springs because there was so much real living going on. As they left, Betty smiled into Aunt Judy's eyes.

"I'm going to take a course under Mary Creel," she said.

Planning to Save? Start Now.

We all like to talk about saving and to think how much we can actually put aside once we get settled. But the trouble is, we are all prone to put off the day of beginning and to think that after this or that emergency is past we will begin to make definite and far-reaching reforms. All of which is very praiseworthy, but does not get us anywhere.

The only time to begin is now, and the place right here. Most of us are used to indulging ourselves in some ways beyond that which is really necessary. We may think and argue that we are extremely economical and believe what we say, but few of us go about it systematically.

One woman, a widow, who has reared and educated two daughters, sending both of them abroad, said it is not the big things which eat up one's finances nearly so surely as the small things. So she has always taken pains to keep every garment in nice repair, so that it will do as long-time service as possible, and to consider carefully before she makes even a small expenditure. She has trained herself to ask

Health Talks

By John B. Huber, AMMD

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Middle-Aged People.
After fifty the less one eats the more healthy he is like to be, with due regard of course to sufficient nourishment. We nearly all of us, young or old, eat a great deal more than we need. We could do our work on a smaller consumption of food.

All foods contain only a certain amount of nourishment; the rest of it is waste, which must be gotten rid of somehow, by the kidneys, the bowels, the skin, and the lungs.

While we are still young the body will, for the time, meet every strain that is put upon it; and that is why excessive and unsuitable food hurts not so much. The youthful body strains a few points and gets over the trouble by drawing on its reserve force, its factors of safety. But in middle life there is less reserve power; so that in the cases of those who have been careless or dissipated, the body finds it difficult to rid itself of the waste matter in the food. Then there results auto-intoxication. Again, in middle life we are too ready to ride instead of walk. We take less exercise; worst of all we find our greatest pleasure in eating and drinking. Then, as we grow more and more self-indulgent, we become stouter and stouter.

This is so common a fault that people think it is quite natural to become fat at forty and dependent on a trolley or a ferry when they have to go a mile. And so the storage of waste matter leads to many headaches, backaches, rheumatisms, and gout.

By middle age we ought to have stored up enough energy to carry comfortably to four score years at least. After fifty the only food taken ought to be just enough to keep one going comfortably and not so much as to leave more waste than our eliminative organs can take care of. The less meat and alcohol the middle-aged take, the more will life be enjoyed, the clearer will be their minds, the more active their body. Take only what is required to maintain a fair weight; that is the test.

Questions and Answers.
Your observation about gangrene has greatly relieved me by reason that my mother died of gangrene when she was only 24; and I have always feared that at about her age I would have the same disease. I have myself on both sides of my neck, red, hard pimples. I have tried many kinds of drugs to cure them, but without success.

Answer—The kind of fear you mention regarding disease, as one that is like to grow with the years, until it becomes a positive and dangerous obsession. Best learn the truth and then you will know what you are "up against." Present-day science scorns the idea of hereditary transmission of many disease states, which were formerly and erroneously believed to be handed down from generation to generation. The pimples are no doubt due to enlargements of chains of glands in the neck. Your doctor should examine carefully as to their nature and advise you accordingly.

These questions mentally: "Do I really want this? Do I need it? Shall I be any better off if I get it?" She says that if she can answer these questions in the affirmative she has no hesitation in buying what she is considering, but that in nine cases out of ten she is obliged to face the fact that the expenditure is only suggested by being where these things are sold and seeing others making generous purchases.

Many people waste money by purchasing too liberally for the table. The housewife should know just about what her family will use and provide the amount which will not allow for waste. Leftovers are often difficult to use up, as there is not enough to go around, and quite as much must be furnished with them as without them.

One family found that by being more careful with the laundry bill they were clothed in just as many fresh garments and still had savings enough in a single year to pay for a \$50 bond.

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Have Your Children a Chance to Study Music?

The up-to-date schoolhouse has library, domestic science and assembly rooms. Why not add a music room, to be used as a practice room for pupils who have no musical instruments at home, and where once or twice a week competent teachers might give instruction? Let it be a room in which the boys and girls whose fathers do not own automobiles, nor have time to take them to a city studio, may be given an opportunity to develop a taste for something which is uplifting. Music is by far too much of an essential in our lives to be ignored. No social gathering—no program—is complete without music in some form. The popular community sing can in no place be of greater benefit than in the rural community. And community singing is nothing more or less than a revival of the singing school which our grandparents attended, save that now we do not go to learn to sing by rote as past generations did, for to a large degree note reading is included in the school curriculum, so that today people assemble with a basic knowledge of music, to some extent, and the community sing becomes a social feature rather than the educational feature it was in the past.

To one who loves music it is painful to find that in many homes there are no musical instruments save the mechanical ones. These instruments have their value, and as a means of developing appreciation, and keeping before the young student the long quality which is to be striven for, they are unexcelled; but I have gone into many homes where the reply to my inquiry regarding the possession of musical instruments has been: "We did own a piano but we traded it in toward a phonograph. It cost so much for Mary to take lessons, it's so hard to get a teacher to come out to the country, and as we are too busy to take her to town, thought we might as well buy canned music." And so it is that Mary is denied the right to develop the latent talent which might have given her the power of outward expression of the emotion with which one plays or sings—an expression which brings satisfaction to the performer and pleasure to the listener. Then, too, we must remember that, "music, if only listened to, and not scientifically cultivated, gives too much play to the feelings and fancy; the difficulties of the art draw forth the whole energies of the soul."

My tenderest memories cling to the Sunday evening "family sing," often joined by others, young and old, and out of that group came one, who later charmed all Europe by her power of song. I often think of those days and value the inspiration they have given me for the work in which I am now interested. I have for some time been working for "More and Better Music for the Masses," and there is no channel through which we can expect results more than through our public schools, both rural and city.

When I speak of better music I mean the music which appeals to the soul, which inspires and uplifts rather than the music that appeals only to the feet and the baser element of man. And that is what most of our so-called rag-time music does.

It is gratifying to those of us who are working and hoping for the day when there may be a new emphasis on music as well as on objectionable moving pictures—the two go hand-in-hand—to know that statistics compiled by government experts who studied the use of music in the camps during the war, show a most decided tendency toward an increasing disfavor of rag-time. These reports show that popular music, as we now interpret the term, which sounds the notes of such great fundamental emotions as love, country, honor, flag, freedom, home and dear ones, is far in advance of music which is of questionable origin.

My plea is that our boys and girls may have a chance to learn the best in music as in other things; for when the piano is being played or when the sounds emerging from the washboard which proclaim that John is practicing the horn or clarinet because the music teacher comes to school to-morrow, fathers and mothers who have "Johns" and "Marys" will have less worry concerning the morals of their children; for it is a well-known fact that whilst rag boys and humming girls give their self-made fathers and mothers less serious concern.—S. P. S.

The Carver.
The Carver's heart is in his task. The wood yields quickly too. And no reward he deigns to ask. But that his dream comes true In hushen back, or stately tree, In nervous, boyish hand, Is cut a "J" for John McKee. And "S" for Sarah Blund.

And there it stands that all may read, That all the world may see, That Sarah Blund cannot be freed From loving John McKee.

"I count life, just a stuff To try the soul's strength on." "Good manners is the art of making those people easy with whom we converse."—Dean Swift.

Music is a universal language. Where speech fails, then music begins. It is the natural medium for the expression of our emotions—the art that expresses in tones our feelings which are too strong and deep to be expressed in words.—Charles Kingsley.