

COMMON PARASITES OF SWINE

(Experimental Farms Note)

Swine are subject to several parasites, external and internal. Of the first class the most troublesome is the ordinary hog-lice. These insects are responsible for such unthriftiness and poor gains; are an advertisement of the unobservant eye or carelessness of the feeder, and are intolerable in that unless the infestation is of long standing, they are fairly easy of eradication.

METHODS OF ERADICATION

1. Pigs may be dipped or sprayed with any good creolin or coal-tar disinfectant, made up as per directions accompanying the preparation.
2. Coal oil or kerosene is used by some. Though effective, it has a blistering action and should be avoided.
3. Fuel oil is highly recommended. Experiments with it at Ottawa proved it efficient, but slightly irritant and leaving the hair of the pig in a dirty discolored condition.
4. Crude castor oil is non-irritant, soothing and quite destructive to lice. Where procurable it forms possibly the best application for this purpose. At present, the price of castor oil is too high to permit of its use.
5. Paraffin oil (low grade) as now used in the herd of swine at the Central Experimental Farm, has proved non-irritant to the skin and quite effective as an insecticide. It is cheap, easily procurable, and colorless.
6. Apply disinfectant washes (creolin, etc.) with a brush, broom, spray-pump, or, in the case of the large herd, by the dipping method. Apply oils with a cloth, or more conveniently still, by using a large oil-can with a handle and long spout. File a short section off the end of the spout to increase the amount delivered. Apply a stream of oil over the neck, shoulders, and along the back. The heat of the body will cause the application to spread over the body. A large number of hogs can be treated conveniently and quickly by such means.
- Repeat the application after ten days to destroy the lice or nits.
8. If pigs are seen to be badly infested, a thorough clean-up of the premises would be indicated, using a strong creolin spray over all.

INTESTINAL PARASITES

Of intestinal parasites the round worm is much the more common. In most cases examination of the smaller intestine of slaughtered pigs will reveal the presence of a few large white worms. In small numbers they appear to cause little inconvenience to the animal; a considerable infestation will cause a marked falling off in general condition. Young pigs so affected are thin, stunted, and lacking in vigor and thrift. Severe infestation will frequently cause intestinal inflammation or stoppage, resulting in death.

CAUSE

Where pigs are kept reasonably clean, and supplied with fresh water, the danger of infestation is small. Filthy surroundings together with stagnant or foul water usually predispose to such parasitic infestation.

TREATMENT

Prevent by cleanly methods and the use of any good mineral corrective mixture. There are a number of these on the market. A good home-made substitute is a mixture of charcoal, woodashes, and salt; or of sulphur, salt, and iron sulphate mixed in equal parts—take one part with 8 parts charcoal and 8 parts ashes, mix well and allow the animals free access to it.

Where pigs are infested, turpentine is the best remedy. Give 1 teaspoonful to every 100 pounds weight, after fasting the animal for twelve hours. This may be mixed in the feed and given for three successive days. Follow this with a good purging of Epsom Salts.

25c. Buys a Thrift Stamp.

ADVICE ON PLANT DISEASES

(Experimental Farms Note)

In view of the present vital need for increased production the Central Experimental Farm urges every farmer to look well into the question of crop diseases, for the losses which these diseases cause each year in orchard, field, and garden are, in the aggregate, simply appalling.

The U. S. Department of Agriculture estimates that the smutted wheat grown in that country in 1917 would fill a line of freight cars reaching from New York to Cleveland (800 miles). In 1916 in Canada the loss from Rust on grain amounted to \$50,000,000, while the Canadian potato crop in 1915 was almost cut in two by the ravages of Blight and Rot. Each year about one-quarter of the Ontario apple crop is lost from Apple Scab, and the loss in the plum crop from Brown Rot is at least as high.

These are only a few common examples of the numerous diseases which yearly take heavy toll of our crops everywhere. Indeed it has been said that the dollars annually lost from crop diseases on the average farm would pay the hired man's wages.

A great number of these diseases can be prevented by well-tried and simple measures; and since we are now in the midst of the greatest food crisis the world has ever seen, every bit of food saved from the wastage of disease be-

comes not only profit for the grower, but an asset to our country and a boon to starving humanity.

In order to make it easy for everyone to get in touch with all the available help on plant diseases the following sources of information are given:

IDENTIFICATION OF DISEASES AND ADVICE REGARDING TREATMENT

- (1) The Agricultural Representative in your county, if there is one; phone or write him or get him to call.
- (2) The Agricultural College in your province. Each College makes it a part of its policy to answer all such inquiries.
- (3) The Central Experimental Farm at Ottawa maintains a well-equipped plant-disease service which everyone is invited to make use of. Address, Division of Botany, C. E. F., Ottawa, Ontario.

The Central Experimental Farm has also branch stations for the study of plant diseases, any of which will be glad to give every assistance on request. Address, Field Laboratory of Plant Pathology, (Charlottetown, P. E. I.), (Fredericton, N. B.), (St. Catharines, Ont.) or (Brandon, Man.).

In writing do not worry about the exact address. Your letter will reach the proper place if it goes to any Government Department. Give as full and clear a description of the trouble as you can, and send specimens where possible. Several specimens are better than one. They should be typical of the trouble, and should be packed so as to arrive in good condition. When addressed to (3) above, no postage is required on letters, or on packages of specimens not exceeding 12 oz. in weight.

BULLETINS

Bulletins give in condensed form all the important information about diseases, and their control. If well studied they give a clear understanding of the trouble, and if kept for reference they save burdening the memory with many details of methods. They are sent free of charge. Requests sent to any of the addresses given above will bring bulletins on plant diseases. Write for either, (a), a list of those published from which you can make your own selection, (b), those bulletins dealing with the disease of some particular crop, as potatoes, or (c), a bulletin on a certain disease, as smut in oats.

Cut this out and put away for further reference.

FITTING COWS FOR LACTATION

(Experimental Farms Note.)

All mammals, when in proper environment and under normal conditions, naturally take on flesh during pregnancy, the reserve being used in milk production when the young is born. As we expect a dairy cow to give much more milk than her calf requires, it is only reasonable that she should be in extra good condition of flesh at calving time. A further consideration is the procuring of strong, well-nourished calves, which cannot be expected from poorly-nourished cows. Grain fed during the dry period has been found to give greater returns than the same amount of grain fed after calving, these returns being in the form of a more vigorous calf and increased milk production. To have the cows in proper condition of flesh, one of the first requisites is to give them sufficient rest between lactation periods. The cow that is milked up to within two or three weeks of calving may pile up quite a record for that year, but she will surely fall off in the next lactation period. Each cow should have from six to eight weeks of rest period.

The feeding of the cow during this period will depend upon her condition when dried off. If she is in good condition of flesh then very little more than a maintenance ration is necessary, but the feeder should watch that she does not lose her thrifty condition. If she has become thin and run-down, then a liberal ration should be allowed. The character of the ration need not differ materially from that fed to the milk cows. Pasture, supplemented by silage and legume hay in winter, should be sufficient for the cow in good condition. Those in poorer condition should receive grain in addition up to six or seven pounds per day if necessary. It is important at all times that dairy cows receive a laxative ration, but particularly so just at calving time. To this end the grain ration should consist of such laxative feeds as wheat bran and oil cake, together with either ground oats, barley, or corn, preferably the former, in equal parts. For every 100 pounds of the above grain mixture there should be added 1 pound each of ground rock phosphate, charcoal, and common salt. The salt is a necessity in the ration, while the other ingredients act as a tonic. Cows not receiving the grain should be fed some of this tonic mixture separately, or the last day or two before calving the regular ration should be replaced by bran alone, which should be fed up to calving time for a few days afterwards.

To ensure the best results from the above method of fitting the cow for her lactation period she should be allowed plenty of exercise. Running with the milk cows in summer and being turned out in the barnyard for an hour or two daily in winter will meet requirement in this regard. This exercise will be found to do away with cows highly fed on heat-producing foods just previous to calving.

Make a "Saving" Resolution.

PARTNERS OF THE TIDE

(Continued from page 3.)

"How d'ye do, Clara?" said Miss Tempy, trying hard not to be patronizing. "I s'pose you're takin' a walk. You look real nice. Where are you goin'?"

Miss Hopkins replied that she didn't know just where she should go. "Well, I hope you'll have a pleasant afternoon wherever you go," gushed Miss Tempy. "The cap'n is takin' me for a little drive. Isn't this a beautiful horse?"

Here the captain made his first remark since the carriage stopped. It was to the effect that he was taking Miss Tempy down to the Methodist chapel. She had been going that way, and it was a long walk.

"Oh," said Miss Hopkins sweetly, "is that all? I thought perhaps you were going to take her over to Harniss. It seems as if I remembered you saying you expected to go there today. Good-by, I hope you'll have a nice time."

On that evening Captain Titcomb made the first of the short calls which were to continue during the week. Miss Tempy welcomed him enthusiastically, and her sister did her best not to appear jealous. Clara did not come into the sitting room at all, nor did she do so during the following four evenings.

Bradley did not mention the trouble aboard the Diving Belle when he reached home Friday night. He was even more silent than usual at the supper table. When the meal was over he suddenly exclaimed: "By George, Clara, I must beg your pardon! There was a letter for you in our box this morning, and I left it aboard the schooner. I'll bring it home tomorrow."

Captain Titcomb came about 8. He seemed really cheerful when he first arrived, but soon relapsed into the moody silence that had characterized his visits to the kitchen.

"Clara out in the kitchen?" he asked after a while. "I noticed the light was burnin'."

"No," replied Miss Tempy, "she's up in her room. She's left some bread to rise, and I guess she's comin' down to see it by and by. That's why she left the lamp, I s'pose likely."

As the big clock in the dining room struck 9 the captain rose, announced that he must be going and went. Bradley retired soon after, and the sisters followed his example. The old house grew still. Miss Prissy was dropping into a comfortable doze when she felt herself clutched violently by the back hair.

"Ow!" she exclaimed, half awake. "Let go! What on earth?"

"S-s-sh-h!" Miss Tempy breathed it frantically into her ear. "Don't speak!"

"I won't if you let go of my hair. What's the matter—nightmare? I told you there was a limit, even to pepper tea."

"Oh, do be still! There's robbers downstairs. I heard 'em." Miss Prissy groaningly sat up and listened. "It's Clara seein' to her bread," she said after a moment.

"It ain't. Clara's in her room readin'. I saw her through the crack in the door. And Bradley's in his room. I heard him breathin'. Please git up."

Miss Prissy said no more. She donned a wrapper and put on her slippers. Her sister was already similarly garbed. Then, Miss Prissy bearing the lamp, they tiptoed into the hall and on to the door of Bradley's room.

"Bradley," cautiously whispered Miss Prissy, "Bradley, will you git up, please? Tempy thinks there's some body downstairs."

They heard Bradley chuckle sleepily. In a few moments he came out, dressed in jacket and trousers and blinking at the lamp. Clara, who had not gone to bed, had already joined them.

The procession moved—Bradley first, then Miss Prissy with the lamp, then Miss Tempy, who, as she said afterwards, was "too scared to go ahead and wasn't goin' last." Clara brought up the rear. They peered cautiously into the dining room. It was empty.

"There," exclaimed Miss Prissy, "I guess 'twas nothin' but Tempy's imagination, as usual. She—"

The words died on her lips. There came a sound from the kitchen—they all heard it—a rattling sound and the faint squeak of a door.

Bradley sprang to the coal hod and picked up the poker. It was the only apology for a weapon in sight. He started for the kitchen, but Miss Prissy seized him by the jacket and Miss Tempy threw both arms around his neck.

"Don't you stir, Bradley Nickerson," whispered the older sister. "Don't you stir a step! S'pose he had a revolver."

Bradley tried to free himself, but it was hard work. He unclasped Miss Tempy's arms from his neck, but she immediately seized him around the waist. It was a ridiculous situation, and suddenly he became aware of a cold wind blowing from the direction of the front hall.

"Is that front door open?" he whispered.

The horrified sisters turned to stare at the black tunnel of the hall, and then footfalls were heard on the walk, coming up the steps. Clara's voice became audible. She was speaking in agonized whispers.

"Who?" began Bradley.

Clara appeared, clinging to the arm of Captain Eri Hedge. Captain Eri looked puzzled, but he grinned when

he saw the tableau in the dining room. He told the story the next morning to his messmates, Captain Perez and Captain Jerry, about as follows:

"You see, I'd been up to lodge meetin' and stayed a little longer'n usual. I was comin' home by the short cut, and just as I got abreast the old maids' house, the front door bust open, and somethin' comes prancin' down the walk futterin' and dappin' its arms like a hen tryin' to fly. Thinkin' I 'twas that sperit'ulst camp meetin' I went to last summer struck in?"

"But the critter swooped out of the gate and bore down on me like a hawk on a June bug. Then I see 'twas Clara Hopkins, scared pretty high to death."

"Oh, Cap'n Eri!" says she. "Oh, Cap'n Eri!"

"The same," says I. "What's the row?"

"Burglars!" says she, makin' fast to my arm. "Burglars!"

"I had to laugh. I couldn't help it. 'Burglars at 10 o'clock?' I says. 'Did they come to supper?'"

"But they're there!" she says. "Everybody heard 'em, Bradley and all. 'I couldn't believe 'twas burglars even then, but I knew if Brad Nickerson took any stock in it somethin' was up. And the poor girl was tremblin' like Peleg Myrick's pup."

"All right, Clara," says I. "Let's go in and shake hands with 'em." "So in 'we went. When we struck the dinin' room there was Brad in the middle of the floor lookin' pretty tole'ble foolish, with Prissy moored to his coat tails and Tempy with a clove hitch round his waist. All hands looked s'prised to see me, but no more 'n I was to see them. 'What is this?' says I. 'Living statues?'"

"Brad, he kind of grinned. 'Well,' says he, 'the ladies thought they heard some one in the kitchen, but I guess—' 'Thought we heard 'em,' busts out Prissy. 'Why, you heard 'em yourself?'"

"And now Brad, he held up his hands, poker and all. 'All right, all right,' says he. 'Now that we're re-enforced maybe we'd better go out and interview 'em. They might die of old age if we stay here much longer.'"

"So he winked to me and the fleet got under way. Me and Brad led off, like a couple of tugs, and the women folks strung out behind, like coal barges, holdin' on to each other's wrappers and breathin' hard."

"We opened the kitchen door and sailed in—that is, Brad and I did. The coal barges got in a hump, so's to speak, in the doorway and stayed there. There was a lamp burnin' side of a pan of dough on the table, but, jest as I expected, we was the only humans in sight."

"Looks as if the burglars had got tired of waitin' for us and got mad and gone home," says I. "Don't know what they broke into the kitchen for, anyhow. I've heard of a feller's stealin' a red hot stove, but—"

"Brad looked puzzled, sort of. 'I sartainly heard somethin' movin' out here,' he says. 'Most likely 'twas a stray cat, and it's hidin' around somewhere.'"

"But jest then comes a whistle—a squeal. I mean—from the barges. Tempy's headlights were poppin' out of her head, and she was plittin' a shaky finger at the floor. There was big muddy footprints all over it."

"Well, I own up I was set back two or three rows. Somebody had been there, that was sartin. I've seen cats with double paws, but no cats made them prints."

"Humph!" says I, and Brad agreed with me.

"I was standin' right in front of the door of the closet where the old maids kept their pots and pans. And jest then inside that closet bust out the most outrageous racket ever you heard. Biffy, bang, thump! And then a coughin' and sneezin' like forty packs of thunder crackers."

"I ain't a nervous man, gin'rally speakin', but I got up and moved sudden. I didn't exactly run, but I kind of glided over to the sink. Leastways I was backed up against it when I remembered to take an observation."

The women grabbed each other and screamed. Brad, he turned sort of yellow round the gills, but he was the coolest one in the bunch.

"The bangin' and barkin' and sneezin' in the closet kept right up to time. Whoever it was, he wasn't shirkin' his work none to speak of."

"Come out of that!" yells Brad, makin' a dive for the door.

"Afore he could reach it that door flew open of itself. 'Out comes somethin' doubled up like a jackknife. It kind of pawed the air with its flippers and dove head first for the sink. I give it all the room it needed—didn't want to be selfish."

"'Hoo-rash-oo!' remarks the thing as if it meant it too. Then it shoved its head into the water bucket."

"The whole congregation was considerable shook up. Nobody felt like risin' and addressin' the mourners. The critter at the water bucket splashed and gurgled for a minute. Then it turned round. Its head and face was all streaks of red and brown, and the water was drippin' off its chin. Who was it? You'd never guess in a million years!"

"I swan to man if it wan't Ez Titcomb!"

"Oh, it's the cap'n!" squeaked Tempy and went down in a heap.

"'Hoo-rash-oo!' says Cap'n Ez, sort of openin' the conversation."

"Well," says I.

"For heaven's sakes!" says Brad.

"But Prissy stepped forward and took command. She didn't look scared any more; only kind of queer round the mouth and snappy round the eyes."

(To be continued.)

CHEAP HOUSING AND LABOR SAVING IN THE WINTER FATTENING OF SWINE

(Experimental Farm Note)

One of the most common losses in connexion with winter swine management is due to crippling or rheumatism. That this malady, easy to contract and difficult to cure, may be practically eliminated, or rather, prevented, in breeding stock, wintered out-of-doors with open shelters, has been demonstrated beyond doubt. No ill effect has cropped up to offset this advantage. With several individuals in a small, well-bedded cabin, there is no apparent discomfort to the inmates, even during the most rigorous months of the Canadian winter.

The fattening hog, heavily fed, required to make maximum gains in minimum time, would seem to require warm quarters. The energy required to offset cold would thereby be utilized for growth and fat production. Less feed would be required. While the latter premise proves true, the fact of the matter is that the swine feeder is confronted with the choice of two apparent evils—a comparatively cold house, that because of its nature, is practically like outdoors and therefore dry, or a more expensive, tightly-built, warmer structure, that, even if ventilated, usually proves more or less damp. Crippling in hogs will appear to a greater or lesser degree under bad or good management. Damp quarters undoubtedly predispose to it. Add to this, heavy feeding, with occasional over-feeding, and the result is frequently that of several more or less crippled pigs, the whole or partial losses from which will seriously affect the winter's profits. On the other hand, it has now been pretty well proved at several points in the Experimental Farm System that such losses from outdoor-fattened hogs are practically negligible, and that the evidence of thrift and quality resultant very greatly over-balances the extra cost of outdoor feeding. Cold air should in itself have no virtue. Nevertheless, the open-air hog is more vigorous and healthy than the one fed in warm, dry quarters. Constantly pure air and a certain amount of exercise would seem to be responsible.

Very little capital then need be tied up in winter swine feeding quarters. A low sleeping berth made of old boards and covered with straw within or near a shed for feeding purposes, is necessary. While a straw stack is frequently used for shelter, the above arrangement is better. Access to a pile of horse manure in the

shed or yard will provide a certain amount of food and exercise, and a very considerable amount of recreation for the hogs. Such an arrangement, as discussed, provides a dry, comfortable bed, a difficult acquisition in the fairly expensive building.

The use of the self-feeder during winter has also proved a success. The feeder or feeders must be protected by a shed, as suggested. There is no trouble from frozen troughs and the general inconvenience and waste of slop feeding in winter. Much disagreeable labor in the cold is avoided; in fact, the man who has used the self-feeder for winter work finds it even more of a convenience than it proves in summer. As to gains and cost-to-produce, tests have proved it usually superior to the hand-feeding method. Whole, cracked, or ground corn, ground barley, or barley and oats may be fed. Shirts, bran, re-cleaned screenings, etc., may be mixed with the above, or following the American plan, fed separately in compartments. Where corn enters heavily into the ration, tankage should be fed in a compartment by itself. Charcoal, woodashes, slaked-lime, salt, etc., or a mixture of these should be available. If nothing better, supply plenty of ashes, both coal and wood. Where dairy by-products are not available, water, preferably slightly warmed, must be supplied. Some form of watering device including a tank heater, home-made or purchased, will prove useful where many hogs are kept. A rough rack along one side of the shed near the trough or feeder should be kept filled with well-cured clover or alfalfa hay. Enough of it will be eaten to help balance the meal ration, supply necessary and palatable roughage, and materially reduce costs.

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CHRISTMAS DAY

Early on Christmas man, passing 888 Q noise which he suspected. Entering the J. Perrin, he found secreted in a tunnel cash tills had been a set then a lot of people and the place was a mind of an evangelist, a higher critic. See sticking out of the "trousered calipers, the bold and began to ha this morning appeared Denison charged with the theft of 30 cents. T. O'Connor pleaded didn't know what he h "He fought in France shocked," said counsel Crown Attorney C. grior convictions.

"Before he went to breaking habit, but there's has wiped the Crown.

"If he is suffering said the magistrate, "at the Jail Farm will have to go there for the

CELEBRATE Twenty-six citizens diaphragms with bottle mas Day and faced with more or less for man stood up with a mouth, and while waiting station magistrate to a stage of his procedure, officer and was heard get over with it." As the conventional query edly, just as if he n "Could you have expected on Christmas Day?" the situation with pray accepted the presents fial Christmas tree w visible sign of inward s tude.—Police Court Ne Telegram, Toronto, De

Brea

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