The POULTRY HEALTH Messenger

Special Turkey Number

CONTENTS

MAY-JUNE
1933

The POULTRY HEALTH Messenger

CHARLES CITY, IOWA
Box 140

VOLUME 3 NUMBER 1

MAY-JUNE, 1933

Published bi-monthly in the interests of poultry raisers and for better poultry management, by Dr. Salsbury's Laboratories, Charles City, Iowa, U. S. A.

Subscription price, 50 cents per year, three years for one dollar, with the exception of copies mailed to poultry people through the courtesy of the hatcheryman or dealer whose name appears on the back of each paper.

It Isn't Any Trouble

(Tune—Glory Hallelujah!)

It isn't any trouble if you treat the Salsbury way,
It isn't any trouble if you do it every day.
If you find yourself in trouble it will banish like a bubble,
And your profits they will double
If you treat the Salsbury way.

CHORUS:
Start your turkeys out on AVI-TONE,
Start your turkeys on the road to pay.
Start your turkeys out on AVI-TONE,
And use it in the Salsbury way.

WHEN YOU MOVE

don't forget to tell us about your new address. We want you to have an unbroken file of the POULTRY HEALTH MESSENGERS so your library on Poultry Diseases will be complete and up to the minute.

Just a postcard with the old and the new address will do. Thank you!

To the King of American Birds

TURKEY, cranberry sauce and pumpkin pie! Whose mouth would not water just to think of a menu like that? Roast turkey always tempts the palate of the epicure and is fit to set before the king.

Because turkey is considered the greatest meat delicacy available to the average American it always commands a good price, and turkey raising has developed into a very large and highly profitable industry. The turkey may, therefore, truly be called the "King of American Birds."

In recent years the income from turkeys has occupied a very important place in the family finances of thousands of homes. In many instances it has saved the homes of people who found themselves caught in the great depression. In other cases it has been the means of providing modern conveniences or of sending the son or daughter to college.

Not long ago a daily newspaper carried the story of two Iowa brothers who hauled two truckloads of turkeys to a city market. "My turkeys have been my salvation the last two years," said one of the brothers. "I had 145 hogs and 1,000 turkeys. The hogs at 3c a pound sold for $1,100, while 700 of the turkeys at 12c to 20c a pound yielded $2,600. And it cost me twice as much to produce 100 pounds of that pork as it did to grow 100 pounds of turkey."

Strange to say, the two states raising the largest number of turkeys are Texas and North Dakota, one at the extreme south and the other at the extreme north of the United States, showing that turkeys will thrive in any climate. Others of the ten leading turkey states in their order are Minnesota, California, Oklahoma, Oregon, Colorado, Virginia, Idaho and South Dakota.

While the expanse of new ground available in Texas and North Dakota offers special opportunities for successful turkey raising, this industry needs no longer be chiefly confined to those states. Today, with scientific methods and the newest knowledge of disease control, anyone should be able to raise a profitable crop of turkeys. A section of this issue of the POULTRY HEALTH MESSENGER is devoted to turkeys in the hope that it will help solve some of the more perplexing problems that confront the turkey raiser.

Our Anniversary Number

THIS ISSUE of the POULTRY HEALTH MESSENGER marks the beginning of Volume Three. In two short years the Messenger has grown from merely an idea to a full-fledged magazine with over 100,000 circulation. And that record has been made during the greatest depression this country has ever known.

Just as there is always a reason behind every failure, so there is a reason for every outstanding success. It becomes all the more worthy of notice when such progress is made against the general business trend.

The reason behind the success of the POULTRY HEALTH MESSENGER is a spirit of service, that is a sincere desire on part of the publishers to help all poultry raisers who have trouble with their flocks. And wherever service is the guiding spirit there is no fear of depression because true service never steps backward, but always forges ahead regardless of general conditions.

Each issue of the Messenger brings the latest news on seasonable diseases. The information is authoritative, practical and helpful. By following the suggestions it contains thousands of poultry raisers have increased their profits because they were able to stop or prevent losses from disease. For them the Messenger has turned discouragement and threatened failure into renewed hope and success. The depression has meant nothing to the Dr. Salsbury's Laboratories excepting a stimulation to put forth greater effort in helping the troubled poultry raisers. As a result the business has grown as the service has been widened.

Our prediction is that during the next six months the Messenger will make as much progress as it has during the past two years. Our pledge is that we will put forth even greater effort than ever before to help all poultry raisers solve their many problems in a practical way. If the Messenger has been of help to you, why not tell your friends about it in order that they too may share in its benefits.

Dr. J. E. Salsbury

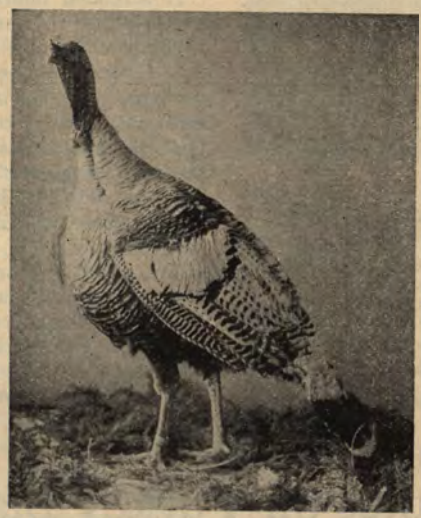
President, Dr. Salsbury's Laboratories.

Wherein Lies Turkey PROFIT?

By GEO. W. HACKETT

Editor and Breeder, Wayzata, Minn.

THE FIRST answer that presents itself in reply to this question is: "the price they bring in the fall," which is true only in part. Regardless of how good the price, the results of the season's work may show loss if a high per cent of the poults hatched have not been brought through to maturity. Not only must they have survived the innumerable hazards common to poulthood, but, in addition, growth must have been continuous and rapid in order that the maximum of size and quality of carcass be secured, for that is what discriminating buyers are willing to pay top prices for. In order to reach this goal, HEALTH is of PARAMOUNT IMPORTANCE. And there is probably no bird or beast on the farm more susceptible to serious diseases or troubles than is the turkey. Only a few years ago it was feared the turkey would become entirely extinct on account of, what was then thought to be, uncontrollable diseases, but thanks to science and sanitation, the turkey hen has become "Queen of the Prairies" and her product has "built many happy homes" for persistent people and has done much to educate boys and girls and to bring to rural homes many of the comforts long enjoyed by folk of the city.



Courtesy of the American Turkey Journal.

First Bronze Young Hen, 1933 All American Turkey Show, owned by Mr. and Mrs. Albert C. Johnson, Bath, South Dakota, who made their first entry of turkeys seven years ago and placed well. They have exhibited each year since and have made excellent progress. Mr. and Mrs. Johnson will continue to produce high quality birds.

MORE FIBER FOR TURKEYS

In a study of the effect of fiber in the turkey ration, the Oklahoma Experiment Station found that approximately 10% fiber gave better results than smaller amounts. After the first week the larger amount of fiber was relished by the poult and showed increased gains.

The color and quality of the plumage increased as the per cent of fiber in the ration was increased. Stringy, worn and ragged feathers were characteristic in lots receiving as low as 5%.

Turkeys require more cod liver oil than chickens to prevent rickets. There was no significant difference in mortality in the different lots.

INJURIES TO BREEDING FLOCKS

The Oklahoma Experiment Station has observed that females with backs torn and otherwise injured are practically worthless as breeders. The best method of preventing injury is to cover the backs of the females with a heavy muslin saddle. These saddles are tied securely over the back into each wing. The toes of the males were covered with adhesive tape but this was found unsatisfactory.

COCCIDIOSIS TREATMENT SUCCESSFUL

"I have been very successful in cleaning up coccidiosis in turkeys by using our regular coccidiosis treatment," writes J. W. Hammond of Ohio, "I have been equally successful in checking Blackhead if taken in time. In handling this disease I always use the coccidiosis treatment recommended for chickens and also use AVI-TONE."

My Observation *of the* All-American Turkey Show

By MRS. ALVANA BERNARD

THIS SHOW, held at Grand Forks, North Dakota, annually, is claimed to be a stabilizing and centralizing agency for the turkey industry of the Northwest and it certainly has made good its claims. Statistics show that within the trade territory of Grand Forks, the turkey population has steadily increased during the ten years this great show has been in existence. Both the turkey breeders and the produce men I have talked with at the show claim much for the improvement in size and quality of turkeys produced in this section. Last year the exhibits of dressed birds about equaled those of live birds, which proves that the show gives as much attention to the market value of the birds as to their fine appearances. The programs conducted during the show are highly educational, many turkey raisers come long distances to hear these programs. All in all, the entire show is a comprehensive demonstration of what the "turkey industry" is.

I have always been forcibly impressed with the great spirit of cooperation among the ALL AMERICAN exhibitors and show management. The extreme friendliness makes it a "homecoming" of the finest sort. All meet on a common level, discuss individual turkey problems, and then all join in the informal and unconventional social functions. It is said that a person not a turkey raiser, attending this great show cannot come away without having been "bit" by the turkey raising "bug" thereby developing a "fever" from which he never recovers until actually engaged in raising some of those magnificent birds, and exhibiting them at the All-American Turkey Show.

FAULTY INCUBATION OF TURKEYS

In a group of turkeys studied by the Oklahoma Experiment Station the humidity in the hatching compartment was low and the hatch was delayed for twenty-four hours, the shell membranes became hard and tough and leathery in character. Many of the poults were helped from the shell.

These poults had poorly-healed navels and the abdomen was soft and mushy. Infection set in about the navel. In all of these cases, there was a severe constipation which had to be relieved by mechanical means and followed with an enema. Only the poults that were so treated survived.

FOWL TYPHOID STUDIES

In a study of 39 outbreaks of fowl typhoid, the North Carolina Experiment Station observed that good results in controlling disease was had by vaccinating three times at ninety-day intervals. They also found that a single vaccination produced the same duration of immunity as the double or triple vaccination. The larger dose used once and repeated every three months gave the best results. There was little indication of any serious upset following vaccination even with large doses.

Feeding—*and* Sanitation

By L. W. KUNZ
Sunshine Turkey Farms Hatchery

FILL ALL drinking fountains with water, and fill feeding hoppers with Turkey Starter Mash. Be sure that you have plenty of hopper and fountain space. At least eight feet of feeding space is required for every 100 poults. This must be increased as the poults grow older.

By the third day the ring around the stove should be increased. This ring may be removed by the fifth day or as soon as the poults have learned the source of heat and brood without too much crowding.

Be sure that all drinking fountains are kept filled with water and the hoppers with feed. This is important. To save work and cut labor cost we recommend Fitzloff's Automatic water fountain.

If you have no screen floor and desire to use peat for litter, it may be spread on about the fifth day. The use of peat before the poults are from 5 to 7 days old is not recommended.

This program of feeding may be carried out till poults are five weeks old. At this time grains may be added in separate hoppers, allowing the poults to help themselves. They will balance their ration correctly and will not overeat of the grain.

The grains should consist of whole hulled oats, cracked wheat, and fine-cracked yellow corn mixed in equal parts. About this same time we recommend scattering hard granite grit on top of each feed hopper once a day. It is not always advisable to feed grit in separate hoppers until birds are older.

The brooder house should be ready for the poults as soon as they arrive. A few inches of clean, sharp sand makes an ideal litter to cover the floor. Restrict the poults to a ring around the hover with building paper about 2½ to 3 feet from the edge of hover. This is to teach them the source of heat and to prevent any direct drafts on the young birds.

If screened floors are used same should be covered by rough paper or burlap for the first week. It is advisable to hang a lantern or dim light over the brooder for the first three nights to avoid crowding.

Have portable brooder houses with brooder stove for most satisfactory results. Care should be taken not to overheat or chill poults. Provide good ventilation. The 14x14 ft. brooder houses used on Sunshine Turkey Farms will accommodate 300 to 350 poults.

A strict program of sanitation should be laid out and carefully followed. A good common sense plan of providing a screen porch for the young poults and later moving the shelter houses at regular intervals to new ground will prevent loss from disease and keep your growing stock healthy. Do not attempt to raise turkeys with or near chickens. Disease and high mortality come from lack of sanitary precautions.

Some Notes on Turkey Blackhead

THE traditional belief in the fatal consequences of turkey poults wetting their feet has been found to be without foundation. The real source of trouble being in the practice of allowing turkeys to mingle with common poultry or to range over ground which previously was occupied by poultry.

Whether infection in turkeys is derived from common poultry was for a long time a disputed question, but all that is required to demonstrate this is to add to the ration of young turkeys a moderate amount of soil taken from a poultry run. In our hands, this procedure has never failed to produce Blackhead in laboratory raised turkeys.

On investigating the chicken as the source of the disease in turkeys it is found that infection in chickens, although varying in severity is usually mild and followed by prompt recovery, but the organisms thereafter continue to multiply in the cecal contents for indefinite periods and are passed daily in great numbers. Often the infection produces no visible evidence of disease and the "carrier" state is established at once.

Experimental attempts to transmit Blackhead by feeding discharges from diseased birds has been irregular. It is now quite obvious that a chicken "carrier" is a much more reliable and fertile source of infection than a sick turkey. The Blackhead protozoa as it occurs free in the cecal discharges survive for only a brief period; in the egg of the cecal worm it survives for long periods and passes unscathed through the successful freezing and thawing of our winters. Not all cecal worms carry the infection. Since the Blackhead protozoa finds the most favorable condition for the multiplying in the ceca of the chicken and since it is able to utilize parasites of a worm of this host for its transmission, we are led to believe that the chicken is a natural host of the Blackhead parasite.

The ruffed grouse, quail, heath hen and other game birds are susceptible in the same manner as the turkey. The ringneck pheasant does not appear to be a carrier—Abstract of an Address by E. E. Tyzzer, Before the American Philosophical Society, Philadelphia, Pa.

STANDARD WEIGHTS OF TURKEYS
(1930 American Standard of Perfection)

Variety—	Adult tom 2 yrs. old	Yearling tom more than 1 yr. old and less than two	Ckl. less than 1 yr. old	Hen more than 1 yr. old	Pullet less than 1 yr. old
Bronze	36	33	25	20	16
Narragansett	33	30	23	18	14
White Holland	33	30	23	18	14
Bourbon Red	33	30	23	18	14
Black	33	30	23	18	14
Slate	33	30	23	18	14

Dr. Salsbury's Prevention Program for Turkeys

Sickness among turkeys always results in heavy financial losses, extra work, disappointments and heartaches. To insure the health of your flock put the young poults on a definite prevention program from the very start.

WHAT TO DO TO PREVENT TROUBLES

The First Six Weeks

1. To guard against brooder pneumonia, bronchitis, colds and roup, spray the poults with CAM-PHO-SAL each evening after they have settled for the night. Use three teaspoonfuls in half pint of hot water which is sufficient for 400 to 500 poults.

2. Losses resulting from coccidiosis, worms, etc., are reduced through the use of Dr. Salsbury's PHEN-O-SAL and AVI-TONE for baby poults and PHEN-O-SAL and AVI-TABS for growing birds.—Use two PHEN-O-SAL tablets to every gallon of drinking water or milk.—Add one heaping teaspoonful of AVI-TONE to every two quarts of starting mash or one pound of AVI-TONE to every 100 pounds of mash. Keep this before the birds until they are six weeks old.

Start the poults in a clean brooder. Manage and feed just like chickens but raise them separate from chickens.

From Six to Twelve Weeks

1. For each 100 poults dissolve 12 AVI-TABS in one pint of warm water overnight. In the morning mix this solution with 1½ quarts of mash and make it crumbly. Add more water if necessary. Feed all the poults will eat of this mixture the first thing in the morning before they have access to any other feed. Repeat for five successive mornings of each month.

2. Use four PHEN-O-SAL tablets to every gallon of drinking water the same days you give the poults AVI-TABS.

3. When you notice a cold developing spray the poults freely several times a day or night or both with CAM-PHO-SAL solution, using in proportion of three teaspoonfuls of CAM-PHO-SAL to one-half pint of hot water.

4. Vaccinate to prevent pox and cankers by using Dr. Salsbury's FOWL POX VACCINE.

Raise in runs and yards away from the chicks and arrange to alternate the yards every week or ten days.

From Twelve Weeks to Maturity

1. For each 100 poults dissolve 20 AVI-TABS in one quart of warm water over night. Then use this mixture to moisten about three quarts of mash or ground feed to make it crumbly. Add more water if necessary. For five to ten successive mornings of each month feed as much as the poults will clean up quickly before they get any other feed.

2. Use four PHEN-O-SAL tablets to every gallon of drinking water the same days you give poults AVI-TABS. If droppings are watery, green, yellow or mustard colored or bloody, use eight PHEN-O-SAL tablets to every gallon of drinking water until checked. Then gradually reduce the dosage.

3. Look out for colds and spray with CAM-PHO-SAL solution as soon as first sign appears.

At All Time

Keep quarters clean and disinfect at frequent intervals with Dr. Salsbury's MITE DEATH DISINFECTANT.

Whenever turkeys have round worms give NICOTINE CAPS. When infested with tapeworms give KAMALA CAPS.

To protect and immunize against cholera and typhoid vaccinate with Dr. Salsbury's CHOLERA-TYPHOID BACTERIN. The dose is from 2 to 5 c.c. per bird.

BLACKHEAD IN IRELAND

In Ireland turkeys are protected from Blackhead by raising them on clean ground, disinfecting the premises frequently and by using proper medication Young turkeys are allowed free run on clean fields apart from other fowls and periodic doses of worm treatments are given.—Report, 4th World's Poultry Congress.

Diseases of Turkeys

TURKEYS are susceptible to many diseases common to chickens and in addition they have a racial susceptibility to a few others. With the revival of turkey production to the extent that practically every farmer now has a few turkeys and many raise them by the thousands, it behooves everyone to keep in mind the dangers from disease. It is very important to be ready to combat diseases when they appear and also to keep in mind definite measures for their prevention. THE FOLLOWING DISEASES ARE PECULIAR TO TURKEYS:

Rickets is common in young poults.

DISEASES OF YOUNG TURKEYS

Bowel Troubles While not very common in young turkeys, bowel trouble may cause losses the same as in chickens. Improper feeding, overcrowding and various other management factors as well as infectious diseases will produce bowel disturbances.

In treating this trouble take steps to correct the diet immediately. Give the poults a laxative of from one-fourth to one-half pound of baking soda in each five gallons of drinking water and follow immediately with eight PHEN-O-SAL tablets to each gallon of drinking water. Thorough cleanliness and sanitation should be practiced for fear the trouble should become infectious in nature.

Pneumonia Poults are susceptible to brooder pneumonia and it may be found as a complication of bowel disorders. Overcrowding, improper ventilation, chilling and overheating are particularly prone to cause both pneumonia and bowel complications.

In addition to the treatment just given for bowel disorders, spray the poults several times during the day with a solution of CAM-PHO-SAL.

Rickets and Other Nutritional Disturbances Poults are very susceptible to rickets. It is easily detected by pressing the beak between the thumb and fingers. If the beaks feel soft the poults are not getting enough vitamin D or oyster shell. A good grade of cod liver oil should be added at the rate of two pounds to each 100 pounds of mash and proper size oyster shells should be supplied. In case there is intestinal disturbance and digestion is impaired, add eight PHEN-O-SAL tablets to each gallon of drinking water or milk.

Slipped tendon may be confused with rickets. This trouble is caused by an improper balance of minerals. The bones are not soft but the tendon of the hock has slipped to one side, causing the hock to point inward. The ration should be thoroughly investigated.

Coccidiosis Coccidiosis is common in turkeys of various ages. It is often associated with blackhead. Treatment consists of laxatives to remove the excessive mucus and blood in the intestines and then follow with PHEN-O-SAL as an intestinal healer. The directions for treating blackhead should be followed for coccidiosis.

Nutritional disturbances. Note the twisted Hock.

Worms Round and tapeworms are common causes of heavy losses in turkeys. They not only cause actual death but run down conditions, improper development and unprofitable management. If wormy birds are allowed to go too long before treatment they become very hard to fatten for the market. They will not fill out and command top prices.

For round worms use the NICOTINE CAPS described on page 8. For young turkeys the chick size may be given, for half grown turkeys the adult size and for mature turkeys two adult size Caps.

For tapeworms use KAMALA CAPS described on page 8, using the same sizes as for round worms.

Sometimes turkeys affected with worms are also affected with blackhead and coccidiosis and when that is the case they do not stand worm treatment very well. It is often a good precaution to worm a dozen birds to see how they stand the treatment before the whole flock is treated. If there is evidence of coccidiosis or blackhead, treatment for these conditions should be started first, then the worming may be done after the intestines is healed.

DISEASES OF MATURE TURKEYS

Sinusitis (Colds and Roup) This is an inflammation of the sinuses or air pockets surrounding the nasal passages. When the sinuses become inflamed, large, bulging pockets form underneath the eyes. These pockets are filled with a glassy, white secretion. If this is not cleaned up the secretions will gradually dry out and a yellowish, cheesy, hard substance will form. This leads to the chronic incurable stage. Sinus infection accompanies colds and roup.

Treatment

Irrigate the nasal passages by introducing a solution of CAM-PHO-SAL through the cleft in the roof of the mouth. This may be done with a Nasal Syringe. By this method of irrigation the sinuses may be washed out and the glassy substances replaced with an antiseptic solution. A mild CAM-PHO-SAL solution may also be injected right through the skin using a hypodermic syringe and a needle. Sometimes two or three c.c. of a 10% Argyrol solution is used in the same manner. Early application is important.

As a further precaution vaccinate with the MIXED BACTERIN to build up an immunity against the germs and try to correct the faulty conditions that help to bring about colds.

Sour Crop (Thrush) A peculiar type of sour crop is sometimes found in turkeys. Hard, cheesy cankerous growths develop along the gullet and in the crop. Sometimes the growths occur near the outlet of the crop so that the feed cannot pass through. As a consequence the crop becomes distended, material putrefies and becomes very foul smelling. Birds linger on for a long time and unless the condition is properly corrected they will die of starvation.

The cause of some of these cases has been found to be a fungus. In other cases protozoan parasites somewhat related to coccidia (trichomonas pullora) have been found in these cankerous growths. They seem to be infectious. Early treatment with CAM-PHO-SAL solution is advisable.

Giving half a teacupful of luke warm water to which one-half teaspoonful of CAM-PHO-SAL has been added is the best treatment. It may be necessary to repeat this several times in order to kill off the infection and heal up the sores.

PHEN-O-SAL may then be put into the drinking water as an astringent. Eight tablets should be used to each gallon. While the birds are sick they should be kept away from regular feed. They should be given a highly nutritious, easily digested mash fed only in small quantities so that it will not accumulate in the crop. In valuable birds raw eggs and milk may be fed by hand to keep up the nourishment. When there are cankers in the crop one should also look for evidence of pox and if found treatment should be given accordingly.

Pox Pox may occur in turkeys of any age. In the northern states it is most common in winter after cold weather sets in. There may be a few granular pimples about the head, comb and wattles or there may be large masses of dark brown, cankerous material around the beak and inside the mouth. Sometimes the mouth becomes practically filled with cankerous material. All of this is due to pox.

Treatment

Remove the cankers as much as possible without causing too much bleeding and paint carefully with pure CAM-PHO-SAL. Give the birds a rich and nutritious feed to keep up their strength and vitality. Individual treatment should be repeated every day until the sores show decided tendencies to heal.

Prevention

Pox in turkeys may be prevented by vaccinating with the FOWL POX VACCINE chicken strain. The method of vaccination is exactly the same as described for chickens. It requires from two to three weeks for an immunity to develop and from then on there should be no new cases. Birds that are to be kept over the Thanksgiving market should be vaccinated with FOWL POX VACCINE. The earlier the birds are vaccinated (6 to 12 weeks) the easier they will stand the treatment and the better the results will be. It is extremely discouraging to lose large valuable birds in mid-winter with pox and cankers. Any one who has had this experience will realize the great value of vaccinating early. Mature birds are safely vaccinated also.

Typical appearance of a bird affected with Blackhead.

Blackhead A few years ago turkey raising had been brought practically to a standstill by the ravages of blackhead. Newer methods of management during the past few years have lessened to a marked degree the dangers from this disease. However, blackhead has by no means been overcome and a constant battle must be waged to keep it in check. Blackhead is more correctly termed Entero-hepatitis, that is, inflammation of the liver and intestines.

The heads do not always become black. More often they become pale and there is an expression of pain about the eyes and head. When the head becomes very dark, there is a suggestion of fowl cholera and this should be taken into consideration. Birds affected with blackhead become droopy, stand around hunched up, do not follow the rest of the flock. They develop a yellow to green diarrhea and usually die in a few days time. It is easy to determine the presence of blackhead by opening a bird that acts in this way. The large spots on the liver, the inflammation of the blind sacs, usually in the form of ulcers, prove the presence of blackhead. If there are spots on the spleen or other parts of the intestines, one must examine further for tuberculosis rather than blackhead.

Treatment for Blackhead

If birds are treated just as soon as they show the first symptoms of sickness they will very often recover. Treatment for worms, intestinal astringents and a nutritious diet usually show results if begun in time.

Here is the way we have been treating such cases: As a wormer and tonic use one AVI-TAB to every four turkeys, dissolve the AVI-TABS in water and mix with a nutritious moist mash. If the turkeys don't take the medicated mash very well a little molasses may be mixed with it or dry mash or corn may be sprinkled on top of the moist mash. They may also be handled individually and fed with a spoon. For the intestines use 8 PHEN-O-SAL tablets in each gallon of drinking water or milk. PHEN-O-SAL dissolved in water, 2 tablets to a cupful, may also be given in tablespoonful doses direct by mouth.

Prevention of Blackhead

In the management program one should arrange to raise turkeys entirely separate from chickens and other farmyard fowls. The turkeys should be moved frequently to clean ground. They should not be brought back to the farm yard where poultry has been at any time even after they are grown.

As an aid in controlling worm infestation AVI-TONE or AVI-TABS may be used in the mash through the growing period. Many turkey growers find it profitable to add 8 tablets of PHEN-O-SAL to each gallon of drinking water two consecutive days each week. A five day flock treatment of either AVI-TONE or AVI-TABS may be used once every month. This system of treatment is being widely adopted with very good results by many of the large turkey breeders.

Cholera and Typhoid Turkeys are susceptible to the same type of cholera (Hemorrhagic Septicemia) and typhoid found in chickens. Consequently, the treatment should be the same. The CHOLERA-TYPHOID BACTERIN has given good results and should be used in doses of 2 to 5 c.c. depending on the severity of the outbreak and the size of the birds. Occasionally we find a peculiar type of typhoid outbreak in a flock of turkeys and this should be treated with an Autogenous Bacterin. Specimens may be sent to the laboratory for this purpose.

Vaccination of Turkeys

Turkeys may be vaccinated for roup and colds and for cholera and typhoid exactly the same way that chickens are vaccinated using the same bacterin. The dose may be increased from 2 to 5 c.c. Turkeys are also vaccinated for pox using the chicken strain. Four to five follicles should be inoculated with the pox vaccine.

So far no specific vaccine has been discovered for blackhead although the MIXED BACTERIN is commonly used. Very often blackhead is complicated with cholera or typhoid and in that case the CHOLERA-TYPHOID BACTETRIN will prove of great value and should be used.

Make WAR on EXTERNAL and INTERNAL PARASITES!!

They Rob You of Your Poultry Profits, Create Disease and Waste Feed

WORMS
On the INSIDE

Round worms in the Intestines.

Head of a large tapeworm. Note the four eyes or suckers.

Of the many parasites affecting poultry the various species of round and tapeworms found in different parts of the intestinal tract are of the greatest importance.

They do untold damage to young as well as old birds. They cause intestinal inflammation which upsets the digestion and assimilation of the entire system. They produce crow heads, ruffled feathers, thin breasts, weak hearts and general loss of vitality.

The importance of worming your flock cannot be over-emphasized. Wormy chicks can never bring you the profits to which you are entitled. There are two methods of treating against worms, the flock treatment and the individual treatment.

Individual Treatment

The individual treatment consists of giving each individual bird a worm cap. Realizing the importance of a thorough and adequate worm treatment, Dr. Salsbury's Laboratories have perfected a new and complete line of medicines for the different species of worms.

NICOTINE CAPS

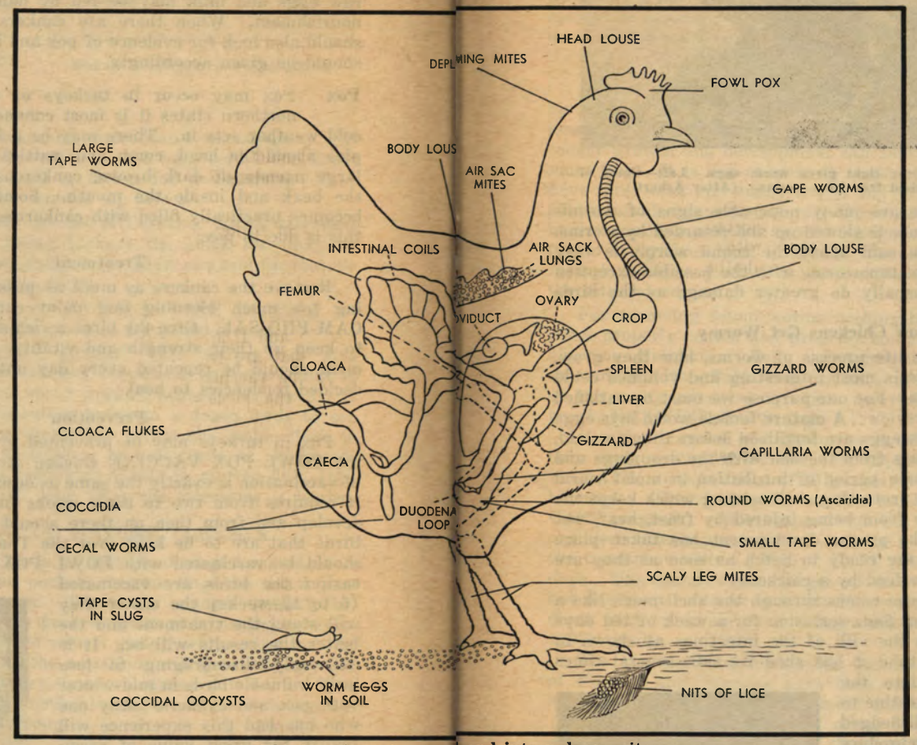
To be used as an individual treatment when round worms only are present. Nicotine has been found to be most effective for the removal of large round worms (Ascaridia). In the Nicotine Caps, the nicotine is combined in such a way that the active principles are not liberated until the medicine reaches the intestines right where the worms are. The caps are well coated and ready to give. Give Nicotine Caps on a half-full crop and follow with a laxative in 24 hours.

Large tapeworms attached to the intestines.

KAMALA CAPS

For use when tapeworms only are found. Kamala is recognized as the most effective drug for the removal of tapeworms. The adult size contains the standard 15 grains of Kamala. Especially recommended for flocks that are not laying. The surest and safest method of getting rid of tapeworms is to use Kamala Caps. Treatment for worms may be repeated as the occasion requires in case new worms develop.

Microscopic tapeworm. (1) The part of the head where hooks are located. (2) Suckers. At the left a segment is ready to drop off.



The location of extern and internal parasites.

KAMALA-NICOTINE CAPS

Contain a combination of Kamala and Nicotine balanced with other drugs for their stimulating and supporting effects. They are widely used and preferred by many poultrymen, where tape and round worms are present.

All these caps come in two sizes, the chick size and adult size, and are for both chickens and turkeys.

Fighting worms is a constant battle. Follow Dr. Salsbury's Prevention Program. Always remember to take care of intestinal inflammation for wormy birds.

Use Phen-O-Sal before and after worming.

For prices and sizes of packages see page 14.

And call for them by name at your dealer. FOR YOUR OWN PROTECTION DO NOT ACCEPT SUBSTITUTES.

LICE and MITES
On the OUTSIDE

In the search for causes of disease, external parasites are frequently overlooked. These may cause serious losses both in old and young birds. It is not at all uncommon to find flocks of chickens that are thin and entirely unprofitable, because they are overrun with lice, mites or ticks. When feathers are partly destroyed, skin is inflamed and scurfy or legs rough, prompt action is necessary.

The Head Louse.

LICE. There are many kinds of lice. The three most common varieties are: the head louse, the body louse and the feather louse. The head louse chiefly seen around the head and neck is considered most injurious to young chickens.

There are several kinds of body lice: a small variety is found on the feathers under the wings, neck, tail and back; the large body lice are found on the skin of the abdomen. Lice have biting parts and do not suck blood. The eggs are called nits.

Body Louse, male.

MITES. The chicken mites are true blood suckers. They remain in hiding under the roosts and in cracks and crevices in the poultry house during the day and come forth at night to suck blood from the chickens after they have gone to roost. In the day time mites appear as red masses in secluded places. Blood is an essential food for the mites.

SCALY LEG MITES are small microscopic parasites that burrow beneath the scales, causing the scales to raise and become rough.

FLOCK TREATMENT

When it is impractical to catch and handle all birds or when birds are in heavy production a flock treatment against worms is preferred. **Avi-Tone** makes an ideal flock treatment and tonic combined. It may be used either in wet or dry mash. For moist mash medication use at the rate of five pounds Avi-Tone to every 100 pounds of feed the birds consume and give five successive mornings each month. For dry mash feeding use ½ to 1 pound to every 100 pounds of feed.

Avi-Tabs are particularly designed for medication with moist mash. They are preferred when there is infestation with microscopic tapeworms and for capillaria worms. Because these worms are buried in the intestinal lining where they are not easily reached, flock treatment repeated for several days has a better chance to reach them than one individual treatment.

Packages and prices on page 14.

Fowl Tick with eggs.

The Red Mite.

FOWL TICK. Ticks are more common in the south. Certain stages are known as seed ticks, where they appear as dark colored objects attached to the skin in clusters. Later they are seen in crevices about the hen house. Ticks are blood suckers.

FLEAS. There are several species of fleas that attack poultry. They infest both the fowls and the buildings and may be of importance in the spread of poultry diseases.

TREATMENT FOR EXTERNAL PARASITES

Lice are sensitive to nicotine fumes and may be eradicated by the use of Nic-Sal on the roosts. Fleas and mites are killed by oily preparations and the best way to attack them is to saturate all the cracks and crevices with Mite Death Disinfectant. This may be used pure and will penetrate deeply and kill the eggs as well as the parasites themselves.

It is always difficult to get every crack and crevice saturated with the treatment and some eggs may hatch out in two or three weeks and this will necessitate a second treatment. Thorough cleanliness and frequent attack on parasites are essential until they are under control. For individual treatment Louse Powder is preferred.

For scaly legs mix one part of Mite Death with three parts of lard and rub well into the scabby legs.

For prices of these products see page 14.

Worms

Some Things They Can and Cannot Do

IN MANY ways worms have been greatly over-advertised. Poultrymen have become truly worm conscious. In some cases poultry raisers are so sold on the damage done by worms that they can think of no other disease as causing losses in chickens except worms. Nine people out of ten that come into our diagnosis room tell us how their chickens act and the first question they ask is "Do you think it is due to worms?" Many times it is and yet many times it isn't.

What we want to emphasize is that all visible troubles and actual deaths in poultry are not due to worms. There are many other diseases that must be recognized, accounted for and treated but we also want to emphasize that all the damage done by worms is not seen or appreciated by the poultry raiser. Figure 1 on this page shows an extreme case of what worms can do to a chicken, but there are many stages of damage done before the chick gets into such a deplorable condition.

Damage Done by Worms

Worms can do damage to chickens of any age. They are particularly injurious to the young chicks as they are put out on range or put in yards. A young chick just a few days old picks up worm eggs that are ready to hatch. In a few days the little embryo worm has wriggled itself out of the shell of the worm egg and found its way into the crypts between the villi of the intestines. Fig. 2 shows a young worm deeply imbedded between the villi and actually attacking some of the vital tissues of the intestine. That is proof enough of the damage worms can do even long before they are big enough to be seen without a microscope.

Fig. 2. Young worm embryo penetrating the glands between the villi of the intestines. (After Ackert.)

Undoubtedly the microscopic stage of even the round worm is as dangerous or more so than the full grown large worms that look so repulsive when you open the intestines. It is clear then that the developing worms destroy the functions of the intestine and as a result nutrition is interferred with, absorption cannot go on normally and the growth and development of the bird must necessarily suffer.

There seems to be even a second danger and that is poison or toxin, undoubtedly the waste products of the worm, which are very injurious to the whole system. Dr. Ackert has shown that the thymus* glands in chickens affected with worms become small, shriveled and apparently functionless. That alone can account for the failure of the wormy chickens to develop and feather properly.

*The thymus gland is the chain of glands located along the neck. In cattle it is called sweetbread. This gland is an essential one in the growth and maturity of the young.

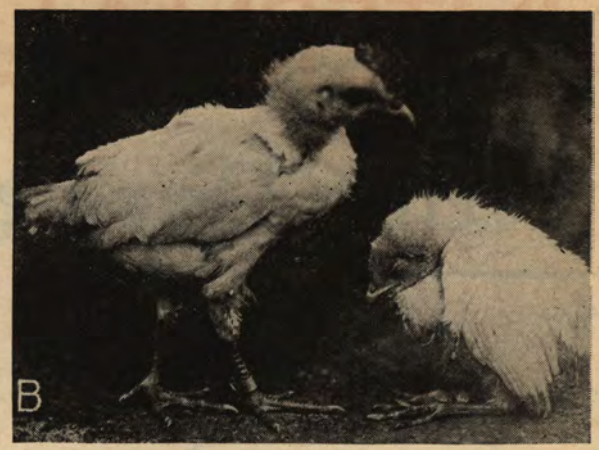


Fig. 1. Chick to the right given worm eggs. Left—Chick of same age raised free from worms. (After Ackert.)

Even before there are many noticeable signs of worminess the growth rate is slowed up and retarded by worms.

What has been said about the round worms is very largely true also of tapeworms with the possible exception that tapeworms usually do greater damage as the birds near maturity.

How Chickens Get Wormy

A study of the life process of worms, how they grow, live and propagate is most interesting and volumes could be written about it. For our purpose we must be satisfied with only a brief review: A mature female worm lays eggs by the millions, the eggs are fertilized before they are laid, the fertile eggs pass from the hen with the droppings and go through a certain period of incubation in moist warm soil. They have a protecting shell coating which keeps the vital germs inside from being injured by frost, heat, wet or cold. When the proper development has taken place outside, the eggs are ready to hatch as soon as they are picked up with the feed by a chicken.

The embryo worm comes through the shell much like a chick does and then finds seclusion for a week or ten days protected between the villi of the intestines as shown in Fig. 2. At that time it has shed its skin several times and comes out into the opening of the intestine to grow as a full-fledged worm ready to reproduce by laying eggs again. This whole process takes only six weeks or two months to complete.

Fig. 3. Capillaria worms in the crop. Note the thin, hair-like worms. (After U. S. Dept. of Zoology.)

Tapeworms go through a different cycle. Each bead-like enlargement in a tapeworm is a segment full of eggs. The eggs have to be picked up by a slug, snail, fly or other intermediate host where a peculiar body called "cysticercoid" is formed. It is only after this stage has been formed that tapeworms can be developed in another bird. The chicken that eats the slugs, snails, flies, etc., containing the cysticercoid exposes itself to tapeworm infestation.

Many Kinds of Worms

Chickens are affected with many kinds of worms. Two kinds of round worms are the Ascaridia lineate which is the common worm found in the intestines and the Capillaria annulata or small thread-like worm commonly found in the duodenal loop but sometimes found in the crop.

In the tapeworm class there are a great many varieties. Some are microscopic in size, that is, the small heads and segments are hidden in the intestinal lining and they can be seen only when proper scrapings are viewed through the microscope. At this point it is well to remember that all

worms are microscopic at some stage of their development. Other tapeworms become large enough so they are visible as white dots on the intestinal lining. Still others become long, slender and thread-like. In addition, we have the large tapeworms that are easily seen in the intestines and sometimes reach the length of two feet. The tapeworms can be identified by their head construction. See the cuts on pages 8 and 9. These pictures also indicate that some of the tapeworms may be easier to remove than others since the head construction is different and security of attachment is not the same. Worms with less secure attachments are naturally more easily removed than worms with more complicated attachments.

What to Do for Worms

As soon as worms are suspected they should be removed by proper treatment. The sooner this work is done, the less damage will be done to the body of the bird and the sooner growth and development can continue in the maximum way. It is not uncommon to find that wormy birds have thin, weak and flabby hearts and shrunken and shriveled internal organs in general. Birds with internal organs in this condition require careful treatment and much nursing to bring them back to health. Remove the worms before they have a chance to destroy the vital functions of the internal organs.

For removing round worms nothing has been found to equal properly coated and properly compounded tablets of Nicotine Sulphate. Easy administration, a minimum amount of after-effects and accuracy of results are some of the many advantages. (See description of Dr. Salsbury's NICOTINE CAPS, page 8.)

For the removal of tapeworms KAMALA is still the only drug worthy of mention. It requires large doses of KAMALA; an equivalent of 15 grains crude powder should be used. (See description of Dr. Salsbury's KAMALA CAPS, page 8.) Since tapeworms are deeply imbedded and their attachments vary, it may be necessary to repeat the treatment with KAMALA CAPS after a week or ten days. One cannot expect to get all the worms at one time but one must continue to battle the worms and keep them down to a minimum even though one cannot always get 100% results.

The treatment of fowls with the separate ingredients of Kamala and Nicotine have been widely recommended by County Agents and Experiment Station Workers.

Practical poultrymen have often found it convenient and highly satisfactory to use the combination of both of these ingredients in one capsule. (See description of Dr. Salsbury's KAMALA-NICOTINE CAPS, page 8.) This combination has been very widely used because it is easy on the birds.

The building up of tonic properties in worm medicine to overcome the toxic effect is particularly necessary in birds that are badly affected and those that may be complicated with coccidiosis and other diseases.

With a choice of these three practical preparations for removing worms, there is no excuse for letting the birds suffer from worm infestation and for the owner to take the inevitable losses that come without proper worm treatment.

Flock Treatment

There are times when a flock treatment is preferred to the individual handling of the birds. When it is impractical to catch and handle all the birds or when birds are in heavy production, it is often wise to use a flock treatment. By flock treatment is meant a medication that can be put into the mash at a general feeding and partaken of by all the birds at will.

The disadvantages of a flock treatment are that active and aggressive eaters get more medicine than the weaker birds, that sick birds do not eat as much and a flock treatment cannot be quite as effective as the individual treatment. Since the dosage cannot be correctly gauged for flock treatment one must not expect to get perfect results in worm removal. Thin birds that require more medicine do not get their share.

(Continued on page 12)

The Summer Months Bring Cholera and Typhoid

Sudden losses are very common in the summer time. They are often due to cholera and typhoid. These diseases can be prevented as well as cured by vaccinating with Dr. Salsbury's Cholera-Typhoid Bacterin.

Recent Experiment Station reports show that losses can be prevented even in heavily infected premises by vaccination every 90 days. Very often once a year is all that is necessary.

Most economical treatment because the average dose is based on a full c.c. for chickens and 2 to 5 c.c. for turkeys. The triple tested bacterin made in our own laboratories under U. S. Government License No. 195.

Vaccination for cholera and typhoid is safe, sure and satisfactory for turkeys as well as other farmyard fowls.

Chicken Pox Now Easily Prevented

Vaccinate the young poults for pox. They respond nicely and develop a permanent immunity. Does away with troubles from sore-head, cankers, etc., next fall.

Chickens and turkeys may be vaccinated at the same time with Dr. Salsbury's Fowl Pox Vaccine, chicken strain. Vaccinate now while the weather is good. Birds of various ages may be vaccinated at the same time.

Dr. Salsbury's Fowl Pox Vaccine is safe to use, certain to produce takes and produces a lifetime immunity.

New low prices are very attractive.

GRAZING CROPS *For Poultry*

A year-round supply of greens can be provided in most sections of the country by proper management. A desirable grazing crop must be tender and succulent. It must be abundant and the cost must be low.

For Fall, Winter and Spring

Italian rye grass remains green and continues to grow throughout the winter and is not injured by zero weather. Seeding should be done in September and early October using 40 pounds of seed per acre. This is an annual plant but will sometimes reseed itself. Rye grass is the best single all around crop. It contains all the known necessary vitamins besides having a high nutritive ratio as far as poultry is concerned.

An acre of rye grass will produce ample range for at least 100 birds.

Crimson Clover may be seeded in September and will supply grazing during the early winter. The seed should be inoculated.

Other crops such as oats, Abruzzi Rye, Wheat and Rape may also be used.

Crops for Summer Grazing

For grazing during the hot months of July, August and September, alfalfa is by far the best crop. Alfalfa requires a liberal supply of lime and it should be clipped three to five times each season to stimulate new growth.

Other crops for sumer grazing are blue grass, orchard grass, redtop, white clover, red clover, Bermuda grass and Dallis grass. Mixed sods may also be used.—Dearstyne and Kime, North Carolina Bulletin 282.

WORMS

(Continued from page 11)

To overcome this the individual WORM CAPS may be given to birds of this kind. It is regularly noticed that birds put on the proper kind of flock treatment respond well by increased health and vigor and better weight.

As a combined flock treatment and tonic choose either AVI-TONE or AVI-TABS. The AVI-TONE is a powder and is suitable for either wet or dry mash medication. For moist mash medication we prefer to use five pounds of AVI-TONE to every 100 pounds of feed and give this mash the first thing in the morning for five successive mornings each month. In many cases it is found of value to give the same treatment two successive mornings each week for the balance of the month.

For the dry mash feeding AVI-TONE may be used in the proportion of ½ to 1-pound to the hundred of feed depending upon the age and conditions.

AVI-TABS are particularly designed for medication with the moist mash. For average conditions one tablet is used as a daily treatment for every five birds, and this treatment continued for five successive days every month. If necessary the treatment may be extended over a period of 10 or 15 days. The AVI-TABS are preferred for infestation with the small species of microscopic tapeworms and for capillaria worms. These worms are buried in the intestinal lining where they are not easily reached by medicines. Repeated treatment for several days has a better chance to reach them than one individual treatment.

If intestines are inflamed, remember, that worms attack the intestinal lining and this necessarily causes inflammation. Wormy birds always have inflamed intestines. In planning a worm treatment it is of greatest importance to take this into consideration. Poultrymen are finding it profitable to use PHEN-O-SAL before and after worming to help allay the inflammation. It gives better results and it pays.

Balancing Fiber in Feeds

"In regard to balancing fiber in feeds," writes A. W. Swallow, of Mount Pleasant, Michigan, "I find that the flocks fed oats in self feeders are in much better condition than where they depend upon only the fiber in the mash. The chickens balance this to suit themselves the same as they do oyster shells and grit.

Sanitary drinking fountains is another thing so many people are lax about; certainly the founts should be kept clean."

Words of Appreciation

I wish to express my thanks at this time for your kind and very fine services. I certainly appreciate this and your fine letter explaining what you found.

Our poultry meeting was held last night and I told my fellow breeders of the fine service you gave me and the nice letter explaining the examination of the specimens. They thought it fine and all spoke highly of Dr. Salsbury's Laboratories.

I have a nice flock of chicks, healthy ones and lay it to Dr. Salsbury's PHEN-O-SAL and CAM-PHO-SAL which I find of great value.

Thanking you again, I remain

Sincerely, H. P. GINSKY,
La Crosse, Wis.

Flock Improvement *from a* Hatcheryman's Viewpoint

By J. TURNER MILLS,
President, Illinois Baby Chick Association.

A guarantee is worth no more than the man who makes it. A baby chick is no better than the hatchery which produces it. A hatchery is no better than the flocks which comprise it, therefore, true quality of a baby chick necessarily depends upon the HATCHERY FLOCK itself. The public knows that it is able to obtain better baby chicks today than three years ago, or even two years ago. Next year they will expect **still** better baby chicks. They have a RIGHT to expect it. The hatcheryman who produces better baby chicks will have a market.

In order to produce better quality he must necessarily build better hatchery flocks. A hatchery flock depends upon two things:

1. THE FLOCK OWNER'S INTEREST.
2. THE HATCHERYMAN'S PLAN.

The flock owner's interest will be sincere, co-operative, intelligent and earnest if the hatcheryman takes him in as a part of the hatchery operation. Build ng these qualities is a real job. It requires one hundred per cent sincerity, true co-operation, intelligence, and earnestness on the part of the hatcheryman. It requires flock meetings with good educational speakers, pictures and other instructive information. It requires flock visits and the use of plenty of gasoline and post mortem instruments on the part of the hatcheryman. It requires unlimited free service, cheerfully and promptly rendered to each and everyone of his people who drop into the many pitfalls of flock ill-health and mismanagement. Visits alone are not sufficient unless followed by wise treatment and ass stance that will make the poultry machine profitable for the flock owner.

The writer figures that the best investment in building baby chick quality has been a liberal investment in ALL DAY FLOCK OWNER POULTRY MEETINGS in December. Free dinners, prizes and other inducements have brought a surprisingly large number of flock owners together. Short talks and discussions of poultry records by the farmers themselves as well as good instructive, illustrated lectures by competent poultry authorities have made these meetings of invaluable worth to the flock owner in building up a highly profitable, healthy, and improved production flock. Rubbing elbows with one another, the building of good will, good fellowship, and true understanding produce unlimited fruits in the field of flock improvement.

We have often said in these flock owner meetings that a good flock owner is a greater asset than a good flock itself.

Now as to the second part—THE HATCHERYMAN'S PLAN.

A smart, sincere, hatcheryman knows that several factors tend to build improvement from year to year. Failure to observe these facts is merely kidding one's self, as every order of baby chicks put out by any hatchery is in direct competition with the chickens of that farmer's neighborhood and with the chickens that farmer purchased in previous times.

First comes livability. The hatcheryman's plans must involve sanitary incubator management and disinfection and the operation of a hatchery that is scrupulously clean.

Second: Testing for White Diarrhea of all flocks produc ng eggs.

Third: Checking over all flocks from time to time with regard to sickness such as roup, worm infestation, leukemia, coccidiosis-after-effects, and other ailments which creep into a hatchery flock and injure hatchability and livab lity.

Fourth: Breeding of strains which are hardy and promise high livability. The customer must get more than livability in today's competitive hatchery plan. He must get birds that will feather and develop rapidly. This is accomplished by selection of cockerels, particularly in Reds and Barred Rocks, at the age of eight weeks. It may also be accomplished by breeding for development and feathering instead of beauty and show type. This statement may step on the toes of some old died-in-the-wool poultry exhibitor who holds to the ideal that "fine feathers make fine birds," but from the farmer's or financial viewpoint this conception is proving false.

Fifth: In addition to good livability, rapid feathering and rapid development the flock owner rightfully expects high egg production from his flock. The hatcheryman's plan must be ever mindful of this and furnish,—irrespective of cost or efforts,—pedigreed or high production bred males. He must maintain breeding pens that will raise either pedigreed or exceptionally high production stock for the supply of males. There must be egg size as well as production, and that egg size is entirely in the hands of the hatcheryman. If his plan sticks to the twenty-four ounce scale, in a very short time the egg-size problem will be solved.

All these factors, depending as they do one on another, link the hatcheryman, the flock owner and the customer hand in hand in a chain that is just as strong as each link and will pull just as much of a business and a profit for that hatcheryman, that flock owner and that customer as the sincere and careful adherence to each and everyone of the above factors if followed. No business today demands the use of honesty, intelligence and co-operation quite as much as the hatchery game. As the saying goes, "They all come back to roost," or "What-so-ever a man soweth, that also shall he reap."

WHAT TO DO FOR MITES

Floresville, Texas, April 3, 1933. "My brooder house is infested with mites. Will your Mite Death Disinfectant do the work without moving the chicks and will it be safe to use it with the stoves burning? I am not prepared to move the chicks to other quarters."—H. C. Wells.

April 7—Answer.

"We have never known our Mite Death Disinfectant to fail in destroying mites and we can therefore recommend it most highly. It is only slightly inflammable and if the flames are not high and the fumes strong, there will be little danger of fire.

"Put the chicks in one corner while you spray the rest of the house. Soak the cracks and crevices so that the Mite Death will have a chance to get down where the mites are hiding. Leave it for 10 or 15 minutes and then put in fresh litter, placing the chicks into the treated part of the building and repeat the operation where the chicks were confined before."

Floresville, Texas, April 15. "Thank you for the letter of the 7th. I got the Mite Death Disinfectant and it sure did the work. Can sure recommend it for any one."—H. C. Wells.

* * * *

Mite Death Disinfectant is a dual purpose product. It may be mixed with water for general disinfection following such diseases as cholera, typhoid, tuberculosis, pullorum disease, etc. It makes an excellent disinfectant solution. For killing lice, mites, coccidia, worm eggs and other vermin it may be diluted with light oils. It makes a most economical and satisfactory spray.

DR. SALSBURY'S MEDICINES FOR POULTRY

Preparations	Size Packages	Price	Uses
AVI-TONE **100% Medicine**	5 lb. carton 15 lb. drum 25 lb. drum 50 lb. drum	$ 3.00 8.25 12.50 24.00	Flock treatment for worms, worm preventive and general tonic. For baby chicks and turkeys, growing stock and laying flocks. In powder form.
AVI-TABS	50 $ .60 100 1.00 200 1.75 400 $3.00 1000 7.00		Wormer and tonic in tablet form. For flock treatment.
KAMALA NICOTINE COMBINATION WORM CAPS	Adult Size / Chick Size 50 $ .75 / $ .50 100 1.35 / .90 200 2.50 / 1.75 500 5.00 / 3.50 1000 9.00 / 6.00		Individual treatment for tape and round and pin worms in chickens, turkeys and other fowls. A properly coated tablet that is easy on the birds.
KAMALA CAPS	Prices and sizes same as Kamala Nicotine Combination Worm Caps listed above.		For individual treatment against tapeworms only. Used for chickens, turkeys, ducks and geese.
NICOTINE CAPS	Adult Size / Chick Size 50 $ .50 / $ .35 100 .90 / .60 200 1.75 / 1.10 500 3.50 / 2.50 1000 6.00 / 4.50		For individual treatment of chickens, turkeys, ducks, geese and pigeons against round worms.
PHEN-O-SAL PRESCRIPTION TABLETS	50 $ .50 125 1.00 300 $2.00 500 3.00 1000 5.50		Excellent corrective for diarrhea and coccidiosis of chicks, Fowl Typhoid, Fowl Cholera, Enteritis, irritation from worms, Blackhead in turkeys, also duck and goose cholera.
CAM-PHO-SAL PRESCRIPTION	Small bottle Medium bottle Large Bottle	$ 1.00 1.50 2.50	For roup, colds, flu, gapes, bronchitis, brooder pneumonia, etc., in fowls of all ages. Pure medicine to be diluted with water.
STOP-PICK	6 oz. can 16 oz. can	.50 1.00	A preparation for toe, vent, tail picking, and all forms of cannibalism in poultry.
PAINT-O-SAL	½ pint 1 pint 1 quart	$ .90 1.50 2.50	Stained dye for painting windows to prevent cannibalism and pickout.
MITE DEATH DISINFECTANT	Quart can Half gallon can Gallon can	1.00 1.50 2.50	To control mites, and disinfect poultry houses. A powerful germ killer and insect destroyer. For treating litter against coccidiosis dilute with distillate.
NIC-SAL	½ pint 1 pint 1 quart 1 gallon	.75 1.25 2.00 6.00	A nicotine preparation to paint on the roosts for lice.
LOUSE POWDER	1 lb. sift top can	.40	Very effective for dusting fowls for lice. May also be used in the nests to keep down vermin.
HOG WORM OIL	Quart can Half gallon can Gallon can	1.80 3.25 6.00	To kill round worms in hogs, sheep and poultry. A two ounce all metal syringe for administering oil, $1.20.
HATCHERY SPRAY	Quart can Half gallon can Gallon can	2.75 4.50 8.60	Effective germicide for spraying eggs and incubators. Not poisonous.
RAT DEATH	4 oz. can	.50	A Red Squill preparation that kills rats and mice only.
FOWL POX VACCINE **Chicken and Pigeon Strains**	100 dose pkg. each 500 dose pkg. each	1.00 4.00	To prevent Chicken Pox by feather follicle or stick method of vaccination.
MIXED BACTERIN, FOWLS	60 doses, 60 c.c. 120 doses, 2-60 c.c. 250 doses, 250 c.c. 500 doses, 2-250 c.c. 1000 doses, 4-250 c.c.	1.50 2.75 5.00 8.00 15.00	A preventive and curative treatment against roup, colds, and related diseases affecting the head of chickens and turkeys. Note that you get one full c.c. per dose.
CHOLERA-TYPHOID BACTERIN	60 doses, 60 c.c. 120 doses, 2-60 c.c. 250 doses, 250 c.c. 500 doses, 2-250 c.c. 1000 doses, 4-250 c.c.	1.50 2.75 5.00 8.00 15.00	To vaccinate for Fowl Cholera and Fowl Typhoid in all poultry, both preventive and curative.
ANTIGEN	Write for special literature		Blood or slide test for B.W.D. The Ultra-Rapid Antigen Test.
PULLORIN	Write for special literature		Wattle method for B.W.D. testing.
TUBERCULIN	40 tests 200 tests	.75 2.00	For T. B. testing. Wattle method.
B.W.D. TEST CABINET	Complete equipment	5.00	For rapid Antigen test.
SYRINGE **Complete with 2 needles.**	10 c.c. 2 c.c.	2.75 3.50	Lifetime Bacterin syringe. Pullorin or Tuberculin testing syringe.

TESTING TUBES—SYRINGE NEEDLES—DISSECTING SETS—OTHER EQUIPMENT

Cod Liver Oil—Write for quotations in barrel lots.
Garget—Special Bacterin for Garget. Write for special literature.
Blood tests for abortion—15 cents each.

DR. SALSBURY'S LABORATORIES

BOX 140
CHARLES CITY
IOWA

*for*_____

_____

_____

RETURN POSTAGE GUARANTEED

Tells how to keep your Poultry healthy. Over 100 colored illustrations showing:

1. *Disease germs, tapeworm heads, lice, mites and fleas enlarged and explained;*
2. *Normal organs their names and proper size and position;*
3. *Worms and worm eggs, coccidia and how to fight them;*
4. *Diseases of turkeys;*
5. *How to vaccinate and blood test;*
6. *Diseases of baby chicks, bronchitis, cholera. roup, paralysis, etc., etc.*

Everything that you want to know about poultry ailments, photographed and explained.

The first edition is just off the press. Come in and get a copy. You will be agreeably surprised.

YOU . . . .

will want a copy of THIS BOOK!

THIS book contains 64 pages with 24 pages of approximately 100 full color illustrations showing normal and diseased organs of poultry in natural colors.

It has taken years to gather the facts for this new book, and months of concentrated effort to prepare the copy. An artist who is an expert in this particular field spent many months in the Dr. Salsbury laboratories to photograph and paint the pictures from actual specimens. He used an entirely new process to get exact reproductions of the actual specimens.

No expense has been spared to make this the most educational book on the common poultry diseases ever published. The text matter gives the latest known facts about the various ailments, their symptoms, cause and treatment. It tells how to prevent diseases through proper methods of sanitation, how to recognize disease in its early stages and how to check it.

Your local Salsbury Service Station (named below) should be able to supply you with a copy. If not, write to Dr. Salsbury's Laboratories, Box 130, Charles City, Iowa, and enclose 10 cents for postage and mailing. The supply is limited.