

The **POULTRY** **HEALTH** *Messenger*

FEATURED IN THIS ISSUE

Abortion in Cattle.....	12
Breeding Flocks Need New Deal.....	3
Rakos for Coccidiosis.....	11
Summer Range Shelter.....	5
Story, "Tommy Takes a Hand".....	6
Two Mid-Summer Problems.....	8-9
Turkey Health	10
News Items and Experimental Reports	

**JULY-AUGUST
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The POULTRY HEALTH Messenger

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TELL HIM NOW

If with pleasure you are viewing
Any work a friend is doing,
If you like him or you love him, tell him now;
Don't withhold your approbation
Till the preacher makes oration
And he lies with snowy lilies o'er his brow.
For, no matter how you shout it,
He won't care a thing about it—
He'll not know how many tear-drops you have shed;
So, if you think some praise is due him,
Now's the time to slip it to him,
For he cannot read his tombstone when he's dead.

More than fame and more than money
Is the comment kind and sunny
And the hearty, warm approval of a friend,
For it gives to life a savor
And it makes you stronger, braver.
And it gives you heart and courage to the end.
If he earns your praise, bestow it,
If you like him, let him know it;
Let the words of true encouragement be said.
Do not wait till life is over
And he sleeps beneath the clover,
For he cannot read his tombstone when he's dead.

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!

The Short Course on Poultry Diseases

THOSE OF our dealers who attended the Dr. Salsbury Short Course on Poultry Diseases which was held in Charles City last August are still discussing it enthusiastically on every occasion. They look forward eagerly to the Third Annual Short Course which will be held in Charles City, Iowa, on August 30 and 31 and September 1, 1933.

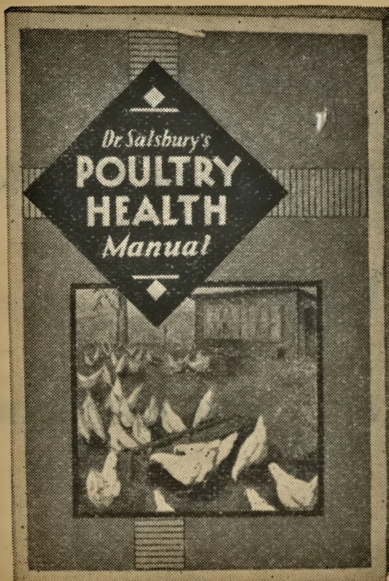
What these people saw and heard here only whetted their appetites and made them anxious to get more of the same kind of information as was dished out in previous years. For many of those who are coming back it will be the one big event of the year. They have looked forward to the occasion and saved their pennies for many months to pay the expenses of the trip. There are a number who are coming back whose only diversion for the year will be their trip to the Short Course. They are coming back not only because it offers a pleasant outing and diversion, but especially because they know they are going to learn things that will help them very materially in their business the coming season.

Every dealer in poultry remedies and other poultry supplies is invited to attend the 1933 Short Course. It will consist of lectures, clinics, laboratory work, round table discussions, etc., conducted by competent authorities. You get in condensed form a complete and practical course of instruction on everything that enters into the subject of poultry diseases. Come and learn how to solve some of the serious problems of the poultry business. Bring some sick birds for diagnosis. See these birds dissected and examined through the microscope. There is no registration charge. The course is entirely free and is offered as a part of the nation-wide service of the Dr. Salsbury's Laboratories.

In addition to the educational features there will be special entertainment and sightseeing for those who do not care to take part in the programs. A trip to the Short Course in Charles City will prove an ideal vacation which will combine pleasure and profit.

New Poultry Health Manual

There is no longer any need for anyone to be without a copy of the new Poultry Health Manual which is so profusely illustrated in natural colors.



Plenty of copies have now been delivered by the printers that prompt shipment can be made to all dealers to take care of all their requirements. Dealers who have not received their supply should ask for it and prompt delivery will be made.

Readers of the Messenger who are interested in the Poultry Health Manual should go to the dealer whose name appears on the back cover of this magazine and ask for a copy. If he cannot supply you, send 10c direct to Dr. Salsbury's Laboratories, Box 140, Charles City, Iowa, and a copy of the book will be sent to you promptly by mail.

Dr. J. E. Salsbury

President,
Dr. Salsbury's
Laboratories.

Breeding Flocks Need "A NEW DEAL"

F. L. SICKLES, Decatur, Ill.

THE popular subject of the day seems to be "A New Deal." In the financial world during the past few years, many people apparently had but one point in view, that was to accumulate more wealth as quickly as possible by fair means or foul. In doing this, many things essential to building a permanent business were disregarded. Then came the "Crash" and now the "New Deal" to set the nation back on a sound foundation.

As a whole, the poultry industry has withstood the strain of the so-called "Depression" well. But in the



The future success will depend upon the breeding flock.

struggle to produce millions of chicks, 300 egg hens, standard colors, etc., poultrymen should take warning from the past experience of the financial world and watch the little things, essential to a sound poultry industry and avoid later regrets.

Even now some of these essential things are in serious need of prompt attention. One of the most important of these is the breeding flock, meaning in particular, the flock on the average farm producing hatching eggs for the commercial hatchery, (but many of the breeder hatcherymen and specialty breeders could improve also). The future success, yes even the very existence of the commercial hatchery, will depend upon these breeding flocks.

The writer, having followed poultry service work for a number of years, has noted many instances where the sanitation, health, breeding and feeding methods of many flocks were badly mishandled. For example:

Many breeding flocks are so low in vitality or sick with disease that one can not expect over 50 per cent livability in chicks produced.

Many poultrymen and women are heart-broken after taking their last dime to buy such chicks in the hope of helping lift the farm mortgage and then losing 50 per cent or more. They have lost more than they invested because they would have been money ahead had the other half died also.

In poultry shows, where breeders exhibit the result of their art in producing birds with fine feathers, many birds that have ribbons placed on them because of their wonderful color and feather designs are so low in vitality or sick with disease that they are not even fit for market. Later they are placed in a breeding pen. In one instance a cock bird won the blue ribbon at one of the largest and best shows in the U. S. A. Hatching eggs were sold at a handsome price from a pen headed by this great bird, but not one egg hatched and the money was refunded. This bird was so low in vitality that he could not fertilize an egg.

The mortality of birds on commercial egg farms often reaches 25 per cent and in some cases 50 per cent. At egg laying contests where the cream of the flocks is

gathered, the mortality often reaches 25 to 30 per cent and sometimes more.

These instances are cited, not to discourage the poultry industry or any phase of it, but to show more plainly the need of a change in our breeding methods.

The day when the hatcheryman or breeder could sell "just any kind of a chick" is rapidly passing and progress along with competition will soon eliminate those who continue this kind of business.

Today the farm poultrymen and women are demanding a chick that will live and mature rapidly into marketable broilers and roasters and pullets that will produce enough eggs to make a reasonable profit.

The broiler man demands and must have a chick that will live, grow quickly, feather rapidly and completely in order to make a profit.

The commercial egg farmer demands livability, rapid growth, quick maturity, long livability, persistent and high production of large eggs.

The breeder must have all of these characteristics and in addition he must know they are there through many generations of breeding.

There are many things necessary in establishing and maintaining a good hatchery flock. Among these are sanitation, disease prevention and control, housing, feeding, breeding and selection of breeders.

The most important factor in a breeding flock is VITALITY and it should never be sacrificed for production, color or any other point. Vitality is the "heart" of it all and enables the birds to "hold up" under unnatural modern poultry methods.

Poultrymen will observe that in every flock of chicks there are always some outstanding birds that feather ahead of the rest, mature quickly and are always alert. If there is an outbreak of disease, they grow right on and in laying flocks keep up production. If they do not entirely resist the disease, they are the first to respond to treatment. These are Nature's choice. What a change there would be in the poultry of today if these alone were used as breeders.

No doubt, many flock owners make the mistake of disposing of their best breeding cockerels by placing on the market the birds that feather and develop first, knowing that the barebacks and slow maturing ones will be developed by the time the hatcheryman appears to inspect the flock. They may save money on the feed bill, but it is false economy. This practice will soon build up a strain of slow feathering, late maturing, poor laying birds of high mortality.

The best method is to toemark, wing-band or in some other manner mark, at any early age, the chicks that feather and develop rapidly so that later they will not be sold on the market but be retained as breeders. The fancier and those that breed for Standard qualifications can cull these marked birds at maturity for color and other Standard requirements.

The writer cannot believe it is necessary to sacrifice color or other Standard qualities in order to maintain vitality, early maturity and egg production.

Scientists sometimes "upset" some of the poultry methods by suddenly proving certain things wrong that have been taught and practiced many years. It is best so far without science modern poultry methods could not be carried on.

Recently J. P. Quinn of the U. S. D. A. stated "neither the shape of the hen's body nor the shape of her head bears any relation to her egg production."

These conclusions were made after trapnesting 400 hens, Leghorns and Reds, for several months. The hens were then killed, dressed and measured carefully for all body and head measurements used in production culling. The brains were weighed and it was found that intelligent hens could lay no more eggs than their less fortunate sisters.

Therefore, it would appear that poultrymen will have to select their high producers by the early maturity method along with the pigment test, time of moulting and broodiness or resort to the trap nest.

The majority of flock owners who produce eggs for commercial hatcheries live on general farms, and few have time to trap nest. But if time permits this would be advisable. Some could possibly find time to trap

nest part of the year, if not for the whole season. It has been found that a fairly accurate record can be estimated for the year by trapping three months and noting the length of cycle and persistency of laying during that period. This method has also proved satisfactory to hasten the progeny test.

Some hatcherymen maintain a "Master Breeding Plant" for the purpose of supplying breeders for their hatchery flocks, thus relieving the flock-owner from the many troubles connected with trap nesting, pedigreeing, progeny testing, etc. This plan appears to be quite successful and will no doubt become a common practice in the near future.

One of the most important developments by science is the blood test for pullorum disease. This disease is the cause of much mortality in baby chicks. Some states have blood tested for a number of years. Others have just started. In the state of New Hampshire the blood test has been carried on a number of years and much improvement is noted. "The per cent of pullorum infection in tested flocks has decreased from more than 7 per cent to less than 1/2 of 1 per cent in the last 12 years." "Twelve years ago it was not uncommon for a poultryman to lose 25 to 50 per cent of his chicks the first week or two of brooding due to pullorum disease. Last year the mortality of 730,000 chicks in 419 flocks was only 8.6 per cent as compared with more than 20 per cent for all flocks in the United States."

This is quite a change in 12 years time. What New Hampshire can do can also be accomplished by any other state.

Blood testing not only aids in lowering the mortality in chicks and breeding flocks, but helps to eliminate many runts, barebacks, unthrifty chicks and unprofitable layers.

Pullorum disease can be eliminated from the breeding flock more rapidly by testing at least twice a year, once when housing or culling and once just before the hatching season.

Science has developed many other methods of treating and preventing poultry diseases. Among these are the T. B. test, fowl pox vaccine, cholera-typhoid bacterin, mixed bacterin for roup, colds and bacterial forms of bronchitis. Just recently a new vaccine has been reported for infectious bronchitis, which should aid greatly in lowering the mortality in egg laying contests, poultry shows and sections where this terrible disease has caused so much mortality.

Fowl pox vaccine has also been a great aid to poultrymen. The pigeon strain for flocks in production and chicken strain for life time immunity. The latter should be applied early enough to allow birds at least 30 days on range after vaccination (all breeders should be raised on range if possible).

Worms and external parasites of poultry are the cause of many diseases due to lowered vitality. Worm prevention and elimination should be strictly followed by all breeders. There are some diseases becoming quite troublesome in some localities regarding which scientists seem to differ in their opinion as to the cause of spread, etc. It is best to discard all birds that show tumorous growth or any form of nervous disorders such as lameness, drooping, twisted neck, blindness, dizzy head, also birds that are unsteady on their feet or show a trembling of body, no matter how slight.

It is important that flock owners report immediately to their hatcheryman or poultry serviceman any outbreak of disease in their flock. Often he can correct your trouble.

There is no need of going further into disease problems as plenty of information is available. Dr. Salsbury has recently published a new manual giving complete information on all common poultry diseases, illustrated by actual photograph in natural colors giving complete information on sanitation, prevention and treatment of most diseases. It also describes and illustrates how and when to vaccinate, blood test, etc. This book can be purchased at a very small cost from your hatcheryman, poultry supply or feed dealer, druggist or by sending 10 cents and your dealer's name to Dr. Salsbury's Laboratories at Charles City, Iowa.

Proper feeding, housing, etc., are very important. Information on these can usually be found also at the local dealer. The important thing is to actually use this information on the flock.

All branches of the industry must "watch their step." The commercial hatchery must improve the quality of the chicks. The fanciers must watch the vitality and production. The commercial egg farm, broiler plants and general farm poultrymen must deliver the desired qualities. The egg laying contests must watch their mortality by better sanitation and disease prevention programs, and so on. But there is room for all and by proper co-operation and by watching the little things the poultry industry should move along smoothly and successfully.

The Latest, Most Scientific and Successful Way to . . . WORM YOUR FLOCK



Now Available
With

Dr. Salsbury's
**NEW LINE
of CAPS**

Poultry raisers will welcome this good news . . . a new line of Dr. Salsbury's Caps that provides a cap for every need. Gives you a specific worm treatment for each type of worm infestation . . . assures the most satisfactory results.

Three Worming Preparations

**NICOTINE
CAPS**
for Round
Worms

1

**KAMALA
CAPS**
for
Tapeworms

2

**KAMALA-
NICOTINE**
Combination
Caps for
Both Kinds

3

Contains the recognized, fully-approved dosage of 2 grains of Nicotine Sulphate per tablet in adult size Caps so that results will be assured. Caps are properly coated.

Contains the right amount of pure Kamala powder and extract per tablet to get the worms. The Caps are properly coated, holding their medicine intact until they strike the seat of the worms.

These balanced Combination Caps are properly coated, blended with supporting and stimulating drugs that keep up the heart action and body functions while the other drugs are acting on the worms.

Plan to worm your birds this latest, most effective, most scientific way. See your local Salsbury dealer at once.

In buying worm medicines, don't compare the prices per capsule but compare the ingredients and the quality of what you are buying just the same as you would if you were buying a suit of clothes.

Dr. Salsbury's WORM CAPS are prepared in such a way that the medicine is not liberated until it gets into the intestines where the worms are located. They are properly coated so that they are easy to give and the medicine is protected from evaporation and disintegration. There is real value in these Worm Caps at our new low prices.

You will find the sizes and prices of the above new line of Dr. Salsbury's Caps on page 14.

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.

Flock Treatment With Dr. Salsbury's

AVI-TONE or AVI-TABS

AVI-TONE makes an ideal flock treatment and tonic combined in powder form. Use AVI-TONE to build up birds of low vitality and to follow the Worm Cap treatment as an aid in worm prevention.

AVI-TABS are in tablet form and may be used either in the mash or grain feed.

Wormy flocks are often low in vitality and need conditioners. AVI-TONE and AVI-TABS are 100% medicine of the kind needed by poultry and contain no fillers. They may be used either in wet or dry mash. For moist mash medication use five pounds AVI-TONE in 100 pounds of feed. Moisten with water or milk and give all the birds will clean up in 30 minutes as the first feed in the morning for five successive mornings each month. For dry mash feeding use 1/2 to 1 pound to every 100 pounds of feed.

See page 14 for prices and sizes of packages for both of these popular tonics and flock treatments.

Summer Range Shelter

L. S. KLEINSCHMIDT, ST. Joseph, Mo.

CLEAN range for growing stock is very important. The task of a cheap, suitable range shelter has kept many pullets on the same old ground. Many types of shelters have been recommended, but high first cost and difficult moving resulted in far too few being built.

A cheap range shelter, with \$3.00 material costs, that houses 75 pullets during the growing period, answers this problem. A penny a season a pullet. It is suitable on any farm location. It is easy to drag or carry to a new location.

Many have been built under this plan, and meet all the requirements of a good range shelter.

CONSTRUCTION: Remove sewing from 9 mash bags. Shake out all dust. Stitch 3 bags together along sides to make 3 sets. Soak these bags in boiled linseed oil.

Cut the two 1"x4"x14' into 4 pieces 7 feet long for the "A" ends. Lay these pieces on edge and nail on the 1"x4"x10' cross pieces, one 20 inches from the top of "A" ends to center of cross pieces and the second 40 inches below first. Build both sides of range shelter alike.

At top of each "A" end piece, bore a 1/4-inch hole 1 1/2 inches from top and 1 1/2 inches from inner edge.

Nail poultry netting to lower cross piece from bottom of frame. Tack set of oiled bags to the cross pieces. Build both sides alike.

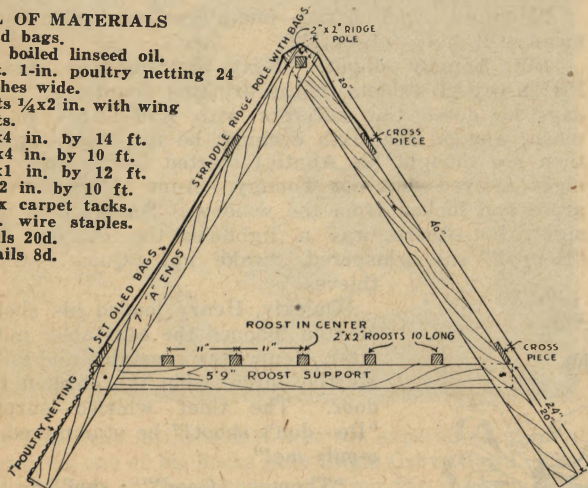
Cut one 2x2 for ridge pole to fit between frames at top. Put 20d nail through holes in top of "A" end pieces and drive into ridge pole, first drilling small hole in both ends of 2x2 to prevent splitting.

Raise frames and tack on last set of oiled bags over ridge pole onto cross pieces. Do not stretch these bags tight enough to tear when frames are closed for moving.

Cut the 1"x4"x12' into two 5 foot, 9 inch pieces for roost supports and bore a 1/4-inch hole 1 1/2 inches from each end of these pieces. Bore 1/4-inch holes 20 inches from bottom of each "A" end piece. Bolt the roost supports into these holes and tighten with wing nuts.

BILL OF MATERIALS

9 feed bags.
1 qt. boiled linseed oil.
20 ft. 1-in. poultry netting 24 inches wide.
4 bolts 1/4x2 in. with wing nuts.
2—1x4 in. by 14 ft.
4—1x4 in. by 10 ft.
1—1x1 in. by 12 ft.
6 2x2 in. by 10 ft.
1 box carpet tacks.
1/4-lb. wire staples.
2 nails 20d.
26 nails 8d.

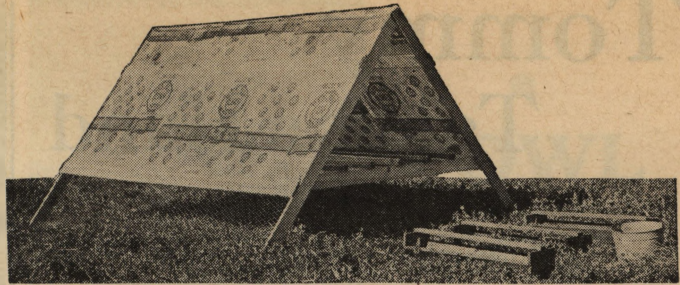


The remaining five 2x2s are for roosts. Round off top corners. Drive a nail into bottom of roost at each end to hook over outside of roost supports.

If troubled with predatory animals, build "A"-shaped ends of poultry netting and wire into place at night.

If you would like detailed information about starting chicks and developing pullets, write for our research bulletin No. R35.

(Copyright 1933 by Author.)



CARRIERS OF INFECTIOUS BRONCHITIS

A. Komarov and F. R. Beaudette, Poultry Science, 11 (1932), No. 6.

An attempt was made at the New Jersey Experiment Stations to determine the distribution of the virus of infectious laryngotracheitis in the body of birds affected with or dead of the disease.

"The liver, spleen, kidney, ovary and peripheral blood were taken during the incubation period, at the height of the disease, and from dead birds, but in no case was the virus found. The virus could always be demonstrated in the trachea of affected birds. The examination of recent and old recovered birds revealed the fact that certain ones continue to carry the virus in the upper respiratory tract. It is thus conceivable that some of the recovered birds may serve as reservoirs of infection and cause a fresh outbreak in the oncoming susceptible population. Transmission experiments by contact with such birds are being carried on."

COMPARISON OF REPEATED RAPID WHOLE-BLOOD, RAPID SERUM, AND TUBE AGGLUTINATION TESTS FOR THE DIAGNOSIS OF S. PULLORUM DISEASE

J. Biely and W. Roach, Jour. Compar. Path. and Ther., 45 (1932), No. 3.

Four tests for pullorum disease were made at monthly intervals on 110 yearling fowls by the three methods. "The percentage of agreement in diagnosis between the different agglutination tests was as follows: 91.3 per cent by all three agglutination tests, 93.8 per cent by the whole-blood and rapid serum agglutination tests, 94.7 per cent by the rapid serum and tube agglutination tests, and 93.6 per cent by the whole-blood and tube agglutination tests. The percentage of agreement of four repeated tests by the same agglutination test was as follows: Whole-blood agglutination tests 94.5 per cent, rapid serum agglutination test 97.5 per cent and tube agglutination test 97.7 per cent."

A RARE MODE OF TRANSMISSION OF PULLORUM DISEASE

H. P. Hamilton, Vet. Jour. 88, (1932), No. 9.

Evidence is presented that the male bird may transmit pullorum infection that will pass through the egg without causing the serum of the hen to react positively to the agglutination test.

TREAT NOW FOR POULTRY PARASITES

Not less than 90 per cent of the farm flocks in Arkansas are harboring internal parasites of some form and in at least 60 per cent of the flocks parasites are present in sufficiently large numbers to seriously affect the health and vigor of the birds, states Dr. Wm. L. Bleecker, University of Arkansas College of Agriculture.

Each bird that is killed for eating should be examined for the presence of internal parasites. This is done by splitting the intestine longitudinally, taking scrapings from the intestinal wall, suspending these in water in a glass dish and examining them over a black or dark surface. The round worms and the larger forms of tapeworms can readily be seen; the small tape and capillary worms require close examination.—Poultry Tribune.

Weather observers find that on still, cold nights the temperature may vary by as much as ten degrees within a few feet of distance.—S. N. L.

Tommy Takes a Hand

An Original Story

By WILLIAM HERBERT RICE

UNCLE Henry was conversing with Aunt Martha. Now and then he edged in a word—as usual. Martha's bedtime story concerned Henry's nephew, Tommy Good, from New York. Apparently, young Good was in bad.

"The idea!" she stormed, "His funning about me—after our taking him from that wicked city and giving him a home in God's country. The young squirt!"

"Now, Martha, let me—"

"Explain, nothing! I heard what he said and what you said. You asked why he wanted a lantern; he said he was going to see that Perkins girl; you got funny and said, when you was sparking me, you didn't need a lantern; and he said—he knew, but 'look what you got.'"

"He was only—"

"It was no joke, Henry Matthews! Besides being disrespectful, he's no earthly good about chickens—don't care—"

"There's one chicken he's interested—"

"Humph! That Perkins girl! Talk sense, Henry! I didn't bring that boy clear out to Iowa for nothing! That hifalutin Isobel Todd's been walking away, regular, with all the poultry prizes to the county fair, and I thought—after paying big money for those Cloverdale Hatchery, blue-blooded chicks—and with Tommy's help—I might have a chance, this year. But, look! My pullets are getting scrubby by the minute—lean, long-beaked, feathers all whichway, and no pep in the parcel. After harvest, Tommy's going straight back to New York! He's no—"

And so, far, far into the night.

At a nearby farm, Tommy and "that Perkins girl" were in conference. "She shan't send you back!" gulped Helen, her brown eyes flashing. "We've got to get our heads together—Stop, Tommy!" she blushed, pulling away, "Not that way—now. We've got to smooth down your Aunt's feathers, find what ails her flock—you know—reach her heart through her chickens. There's a lot of chicken pox around—Father says; know anything about chicken pox?"

"Had it when I was a kid."

"Were your comb and wattles all warty, Tommy?"

"No," grinned Tommy. "Neither are Auntie's chickens. They're watery-eyed, sneezy and acting crazy—dizzy like."

"Worms!" declared Helen, "Worms! Wait, I'll get the book."

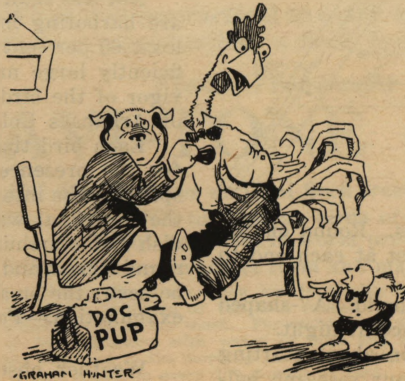
She was back in a flash. "Here's Dr. Salsbury's Poultry Health Manual," she said. "It's gospel on poultry diseases."

"Who's Dr. Salsbury?"

"Why, Tommy! Everybody knows him! Father says, when it comes to poultry cures, 'He sees no failure, speaks no failure, fears no failure.' He has the most wonderful Bacteriological laboratory—and right here in Iowa. He has a remedy for practically every chicken ailment. Now, look!" she said, opening the book, "here's pages about worms—pictures, charts, symptoms, cures—"

"Hello, children!" greeted father, breezing in. "What's up?"

Helen told him. High, wide and



"Worms! Worms! Wait, I'll get the book."



"Tommy and that Perkins girl" were in conference.

handsomely, she pictured Aunt Martha's troubles, her ppeeve and her terrible threat. "Tommy's out of luck!" she wailed.

"In luck, you mean," he cheered. "Now, listen, son! Tomorrow's Saturday. A Salsbury man's holding a clinic over at the Isobel Todd place at three. You hustle home, get a sick chicken, take it to the clinic—the man will do the rest. Can you make it, Tommy?"

"Watch my dust!" said Tommy.

When Tommy returned from the clinic, he was brimming with poultry facts and respect for the Salsbury man. He had seen him deftly dissect his fowl, show the large round worms, the microscopic tapeworms imbedded in the food-absorbing corrugations of the intestines, and the larger tapes—further back. He had learned how to worm the flock, and how to vaccinate against the chicken pox scourge. With his own money, he had bought what the expert advised.

"Auntie," he said, "your chickens have tapeworms. They—"

"Tapeworms, your Granny!" she scoffed. "How could they? I've got the cleanest—"

"I know, Auntie, but you see, tapeworms are carried by the fishworms, slugs and flies that poultry pick up. The man said, the worms lay enough eggs to cover the chicken yard and saturate it two inches deep. If the eggs were big as baseballs, they'd be heaped ten feet high."

"Stuff!" sniffed Aunt Martha. "And—he said they should be vaccinated, eh?"

"Sure! And I know how."

"Humph! Another fad—and a cruel one! Tommy, you mean well, but—forget it!"

But Tommy didn't. Next morning, he dissolved PHEN-O-SAL tablets in the drinking fountains; for five days he dosed the sufferers with AVI-TABS, in their mash; and on the sixth evening, he fed them—lightly—then (so thought his Auntie) started for Helen's. Midnight arrived—but not Tommy. Aunt Martha, worried, arose and looked from the window. Tommy was not in sight, but—there was a light in the chicken house. "Henry!" she whispered, "wake up! Quick! Chicken thieves!"

Quickly, Henry loaded his shotgun; Martha phoned the constable; minutes later, Henry, the constable and militant Martha threw wide the chicken house door. The thief whirled—surprised. "Do—don't shoot!" he stammered, "it's o-only me!"

"Thomas Good!" shrilled Aunt Martha. "What are you up to?"

"Well," he explained, "first—I wormed the flock—gave 'em each a Salsbury Kamala-Nicotine Combination Worm Cap; then I vaccinated 'em with the Doctor's Chicken Pox Vaccine. There's only one more to vaccinate. Watch, Auntie!"

"Stop!" she protested. "It's cruel—outrageous!"
 "Don't hurt 'em a bit! See," he said, "you just pluck five feathers from the thigh (like this) then paint the spot (like this) with the brush. See?"

"Tommy!" ordered Aunt Martha, "come to bed!"

Summer simmered into autumn. Martha's chickens, immune from pox, and free from parasites, were right as two rabbits. To the county fair they motored with Uncle Henry, Aunt Martha, Tommy, Helen and the World and his wife. Home they came with two blue ribbons, an honorable mention and Isobel Todd's scalp.

"Well, Martha," observed Uncle Henry, "betwixt you, Dr. Salsbury, Tommy and that Perkins girl—"

"Perkins girl, indeed!" flared Martha. "You mean 'Helen'! She's a right sweet girl—I find—and mighty sensible!"

"So," chuckled Uncle Henry. "Likely she'll feel bad when Tommy goes back to New York."

"Listen, Henry Matthews!" informed Martha, "Tommy isn't going back!"

Chronic Carriers of Infectious Laryngotracheitis

C. S. Gibbs, Jour. Amer. Vet. Med. Assn., 81 (1932), No. 5.

This further contribution on infectious laryngotracheitis from the Massachusetts Experiment Station (E. S. R. 66, p. 873) reports that chronic carriers of the disease have been found eliminating virus up to 467 days. "At the end of this period, two fowls were still transmitting the disease to susceptible chickens at regular tests. Four of the chronic carriers had laryngotracheal rales, and 17 did not show this symptom. Four other birds recovering from infectious laryngotracheitis and having persistent laryngotracheal rales did not eliminate the virus as indicated by intratracheal swabbing into susceptible chickens. In the 21 chronic carriers studied the virus seemed to be confined to some portion of the larynx or trachea, and lesions such as inflammation, hyperplasia, ulceration, and pseudomembrane appeared to be associated with it.

"The results of these observations and experiments indicate the laryngotracheal rales are not a reliable means of detecting chronic carriers."

DEAD FROM CHOLERA



150 hens dead in three days was the experience of John Shoenhair in one of his flocks near Eagle Grove, Iowa. The owner told him of the sickness affecting the chickens late on Friday. By Tuesday the CHOLERA-TYPHOID BACTERIN had arrived and they found 150 birds dead. The remaining birds were vaccinated at that time and very few died afterwards. Six weeks afterwards the balance of about 350 birds were laying 150 eggs per day.

When cholera or typhoid are not complicated with other diseases such as coccidiosis and worms the response to vaccination is almost **miraculous**.



FOWL POX

..Easy to PREVENT Difficult to STOP

When hens are in full production and eggs are highest, it's a costly matter to have outbreaks of Fowl Pox, cankers, roup, etc. Yet thousands of poultry raisers lost hens by the hundreds in every section of the country last winter, due to this feared disease. Once it gets a start there's little one can do to stop it.

An Easy Disease to Prevent

Fowl Pox is one of the easiest diseases to prevent by vaccination. But to secure the best results chickens should be vaccinated this summer. Use Dr. Salsbury's Fowl Pox Vaccine (chicken strain) for permanent immunity. For birds in production, use the pigeon strain; produces no set-back.

It Doesn't Pay to Take Chances!

Don't take any chances this year! Vaccinate and make sure your flock is safe. Its small cost will more than be returned to you in larger profits.

In testing the value of chicken pox vaccination, a leading experiment station found that flocks not vaccinated averaged 158 eggs per bird, while birds in non-vaccinated flocks averaged 163 egg per bird during the year.

Go to your local Dr. Salsbury Poultry Service Station and get complete information about vaccinating at once. You will find that he recommends Dr. Salsbury's FOWL POX VACCINE because he knows that it does the work. It is made in our own laboratories under government license No. 195. Fresh, tested stock now ready at new low prices. See your dealer at once.

Dr. Salsbury's MITE DEATH DISINFECTANT

For keeping brooder and chicken houses free of mites and other vermin, as well as disease germs, this disinfectant fills the bill.

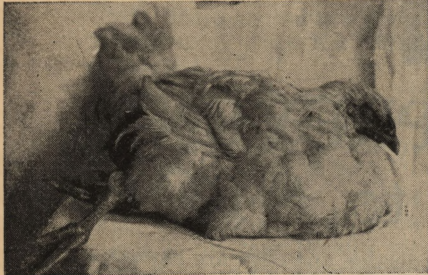
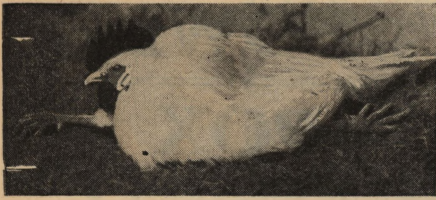
For disinfecting the hen house after the fall clean-up to make it safe for the new flock of layers, use Mite Death and Poultry House Disinfectant. It kills the germs and mites. A dual-purpose refined disinfectant.

Quart can	\$1.00
Half gallon can.....	1.50
Gallon can	2.50

For Lice Treat the Roosts With Dr. Salsbury's NIC-SAL

Easy to apply. Economical to use. Does not make the birds sick. Paint the perches before the birds go to roost. Contains Nicotine sulphate, the reliable remedy against lice and mites.

Prepare **NOW** for the **TWO**



Two very common types of paralysis. The upper picture shows a type that comes on very suddenly which is very often due to tape-worms. The lower picture shows a bird affected with the chronic type of coccidiosis.

PARALYSIS

THERE IS nothing more discouraging than to see young pullets and cockerels come down with paralysis. They lose the use of wings or legs or both. Gradually they become thin in weight and waste away. This trouble has become very prevalent over the country and it is seen chiefly in young growing stock but also in mature hens. It has been termed **RANGE PARALYSIS** because it is most common in mid-summer when birds are on range.

WHAT CAUSES PARALYSIS?

Two of the most common causes of paralysis are worms of various kinds and sizes and chronic coccidiosis.

WORMS produce toxins and poisons that devitalize the function of the body tissues. They produce intestinal inflammation which impairs digestion, they absorb food that should otherwise be used to build strength and flesh on the birds. The small microscopic worms that need magnification to be seen are just as important and sometimes more so than the large worms that can easily be seen when the intestine is first opened.

The problem of worm control is of vital importance in controlling paralysis. When birds are thin from worms the heart and internal organs are just as devitalized as the outside muscles. Notice the comparative pictures of the normal heart with the heart from a paralyzed bird. This picture tells the true story and we must use this information in planning the treatment. It means that the strength of the body must be built up while worms are being removed.

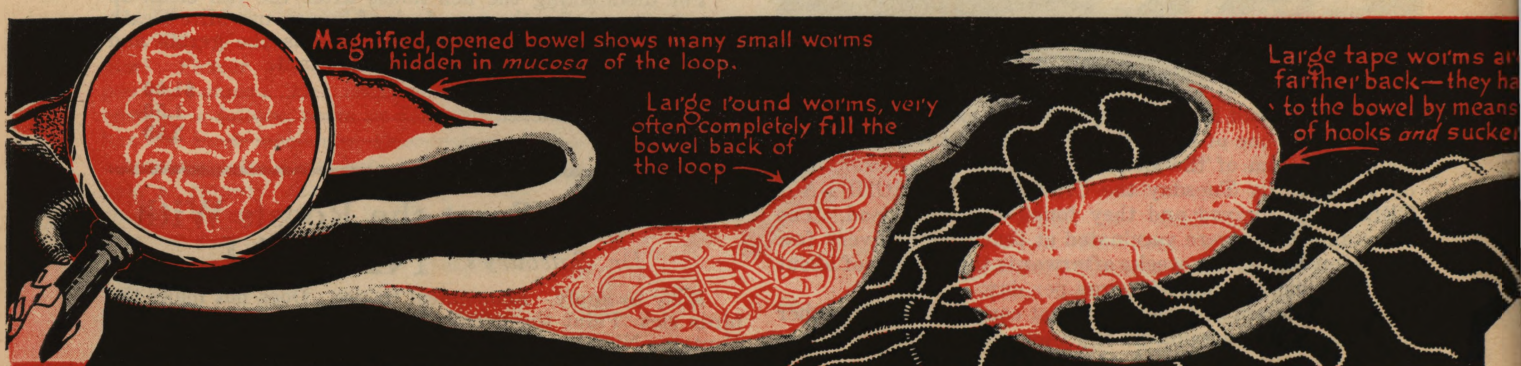


The next time you open a bird look at the heart and lift it up with a pair of forceps. Does it look like the one to the right or to the left?

COCCIDIOSIS There are several kinds of coccidia. Some of them produce chronic enteritis. The so-called enteritis in poultry is in 99% of the cases a chronic type of coccidiosis. There is nothing mysterious about why the bowels are badly swollen when you examine some of the material under a microscope. The large masses and clumps of coccidia push the normal tissues and crowd them out of line. That's what makes the swelling. The intestines are just like a sore thumb. They need soothing and healing treatment with PHEN-O-SAL.

Coccidia and worms may be present in the same bird; that's when treatment for both is necessary at the same time. Chronic coccidiosis is one of the important causes of leg weakness and paralysis in fowls.

In discussing paralysis we must also keep in mind that there is a less common type of incurable paralysis due to a virus that affects the nerves. Look for enlargement of the nerves in the legs and wings or enlargement of the ovary. Even this form of virus paralysis may be complicated with worms and coccidia.



CHIEF Mid-Summer Problems!

WHAT TO DO FOR PARALYSIS

1 If there are affected birds in the flock remove them promptly. Hold a post mortem examination to find out exactly what the cause might be. If you are uncertain call on your nearest Dr. Salsbury's Service Representative whose name appears on the back page of this magazine and if he is unable to tell, he will send a bird to our laboratories at Charles City for complete examination.

2 As a bowel healer and neutralizer of toxin use 8 PHEN-O-SAL tablets to each gallon of drinking water or milk for five days. Then continue with six tablets to each gallon until the trouble is under control.

3 As a tonic and aid in worm prevention and worm control use AVI-TABS. The need of a tonic to help restore the devitalized heart can easily be understood from the picture to the left of the two hearts. AVI-TABS may be used in the moistened mash or in a grain feed. For every 100 birds dissolve 20 AVI-TABS in a quart of water. When this is dissolved mix with enough feed, about four quarts, and give as the first morning feed. If the AVI-TABS are to be mixed with the grain, add enough molasses to make sticky. Repeat the treatment for 10 successive mornings.

The important thing is to get the birds to take the medicine while the crop is reasonably empty and for them to take enough medicine and have it long enough to take care of the condition at hand. Some persistent cases require more medicine and longer treatment than others. Govern the case by the way the birds respond rather than by any given formula. Do not hesitate to double the dose or to increase the number of days treated when it seems necessary.

A laxative treatment of Epsom Salts may be given to remove the mucus and this will enable the medicine to better reach the seat of trouble.

Many early cases of paralysis will recover if the birds are taken out of the flock, put in a quiet place and given individual treatment. Dissolve four PHEN-O-SAL tablets in a cupful of water and give two teaspoonfuls of this solution every four hours. Also give one-half AVI-TAB each morning and evening just before giving the PHEN-O-SAL in water.

When the flock has large round or tapeworms present, use the proper individual Worm Caps to remove the worms and follow with AVI-TABS as a combined tonic and worm preventive. KAMALA CAPS for tapeworms, NICOTINE CAPS for round worms and the Combination treatment where both kinds of worms are present.

CHOLERA

Mid-summer and early fall are the most favorable seasons for cholera and typhoid. Sometimes both of these diseases go together. For practical purposes we can speak of them and treat them as cholera. Birds die suddenly on the nests and under the roosts. Fat, apparently healthy hens usually die the fastest. Very often it spreads through the flock rapidly so that dozens of birds die every night.

If you open for post mortem, a bird dead of cholera you will find a parboiled and easily broken liver, red to greyish in color; mucus, greenish and sticky, in the intestines and often hemorrhages on the heart or yolk-like material in the abdominal cavity.

Vaccination Prevents Cholera

Vaccination with Dr. Salsbury's CHOLERA-TYPHOID BACTERIN has proven extremely satisfactory in preventing and curing cholera and typhoid in poultry. It usually stops the majority of the losses in 24 hours and by the end of the week no more losses are noted.

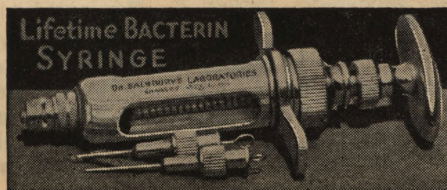
The Bacterin is injected under the skin with a needle and syringe. The job is very easy to do and very certain in action. As a rule one treatment is sufficient but a second and third dose can do no harm and on severely infested premises may be necessary. Recent scientific reports from the North Carolina Station show that vaccination every 90 days has proven specific in controlling losses even on very badly infected premises. With Dr. Salsbury's BACTERIN you get one full c.c. for every dose you buy. Therefore, it becomes the most economical bacterin on the market. The larger doses give the best immunity.

To complete the treatment for most prompt results reduce the protein and corn in the ration and supplant it with bran and oats. To take care of the diarrhea and intestinal inflammation use 8 PHEN-O-SAL tablets to every gallon of drinking water or milk. Also clean and disinfect the premises. These things help to put the system in good condition while the bacterin is developing the immunity.

Vaccination does not stop egg production nor hurt the meat for food. It does not make the birds sick and is safe to use anywhere. Government records show that more people are taking advantage of vaccination every year.

Bacterins are highly refined medicines. They are made under U. S. Government License No. 195 under the most up-to-date and careful methods to insure full strength for immunizing the birds. The full-sized dose and the superior strength in Dr. Salsbury's Bacterin means more immunity for the money.

The packages and prices will be found on page 14.



It is simple and easy to vaccinate for cholera. Complete directions come with every package and the man whose name appears on the back of this magazine can help you get started on the vaccination program.

How

By
EARL V. KENNEDY
Amboy, Illinois

We Keep Our Turkeys Healthy

UNTIL late last year the management of our turkeys has been a succession of changes. At first I tried several commercial feeds with unsatisfactory results. Early last year I started to mix my own feed but continued to encounter difficulties. Instead of sticking to one brand of bran, middlings, meat scrap, etc., dealers obtained them from so many different sources that I never knew what I would have to prepare tomorrow's rations.

Late last season I found several flocks on a commercial ration that was giving excellent results and this year I began to use it myself. Although the price of the feed per hundred has been somewhat higher the labor cost and mortality have been less while the rate of gain has been higher. Other results I expect are marketable birds at an earlier date and bigger weights and better finish at the holidays.

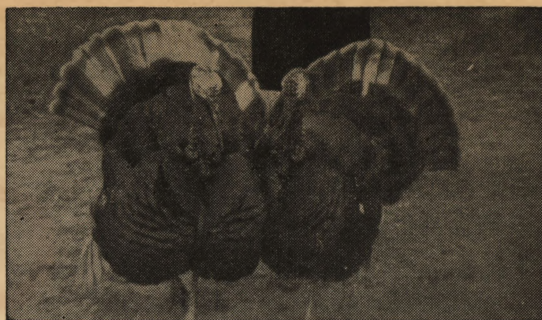
Our poults are all brooded on wire until they are old enough to get along on range without shelter other than shade on hot days. Every ten days they are moved to a larger and cooler pen until the seventh or eighth move takes them out on range.

Our screen platforms are two feet from the floor and have more room outside the buildings than inside. We use oil burning brooder stoves as they can be turned out when necessary and started up and brought to full heating capacity in a few minutes whenever an emergency demands it. Plenty of moisture pans are kept at the stoves and we are very liberal with feeding and watering space. Crowding and smothering have given us very little trouble this year. Proper heat and humidity and a feed that meets every requirement do a great deal to avoid this trouble.

We consider our system of disease and worm control a very necessary part of our program. In addition to the use of wire platforms and a succession of clean ranges, it includes the use of AVI-TONE and AVI-TABS. Wire runs and clean range will not control tapeworms. Since flies are the chief source of infestation we do what we can to fight them. But since they cannot be eliminated altogether we wage a constant battle against the tapeworms themselves.

Beginning in June I give all the young stock over six weeks old a five-day flock treatment each month. The following method has been found practical and effective in my case. I make a worm-control mash by mixing five pounds of AVI-TONE in each 100 pounds of mash and ration out to each pen as much as they will clean up in two or three hours on each of five successive mornings. I give this mash either wet or dry whichever way the birds will consume it most readily. About every second month I use AVI-TABS instead of AVI-TONE but these must be given in wet mash.

In feeding this mash I found it almost impossible to make birds used to well filled mash troughs clean up a ration in the bottom of the troughs. So I leave the mash in the troughs just the way it was the night before and distribute the control mash in the valley which the birds have eaten out in the feed. When I give this treatment I either cover or remove the mash troughs until six or seven o'clock in the morning so the birds will develop a



good appetite and consume a good dose of the wormer quickly. The grain troughs are also kept covered until the control mash has been consumed. The important thing is to get a good dose of the control mash into the birds when the intestines are comparatively empty.

The breeding stock receives a treatment every two months in winter or spring. The results are all that can be desired. We are more than repaid for the expense through smaller losses and better quality market birds. One quarter of a pound added weight will more than cover all the cost.

Limberneck

A Common Summer Ailment

This disease is exactly what the name implies. The neck is limber and there is no control of the head movements. This condition must not be confused with the various forms of wryneck in which the bird throws the head from side to side over the shoulder. Limberneck is caused by eating feeds containing certain poisons or toxins. These toxins are particularly prevalent in fly-blown carcasses of rabbits, chickens and other animals. They may be found in certain spoiled feeds and canned goods. Birds with limberneck stand with their heads down and the beak touching the floor. They are unable to eat or swallow and usually develop a diarrhea.

Treatment.

Proper attention may save many birds. Use a physic to clean out the poison and neutralize the system with PHEN-O-SAL. When birds cannot drink, two PHEN-O-SAL tablets may be dissolved in a cupful of water and two tablespoonfuls of this solution injected into the crop either by pouring down into the throat or by means of a bulb syringe. Early treatment usually brings prompt recovery. All weeds should be mowed down and the premises examined carefully for dead animals. If necessary, the birds may be shut up for a few days and given a laxative treatment followed with PHEN-O-SAL, 8 tablets to every gallon of drinking water.

Mycosis in Turkeys

A study of mycosis* in turkeys was recently made by A. G. Gierke in California. In some localities mortality of 8 to 20% has been reported. In two flocks observed 50% of the birds autopsied showed lesions of aspergillosis in the lungs and air sacs. Mycosis, frequently called thrush, usually localizes in the crop where it produces yellow cankers characterized by foul odor. When the disease is complicated with the infections of the lungs and air sacs the mortality will naturally be higher and the condition be more difficult to treat.

As an aid for checking the growth of these molds and fungi we know of nothing better than CAM-PHO-SAL. This may be given as a solution using two teaspoonfuls to every cupful of water, giving each turkey from one teaspoonful to a tablespoonful of the solution. It may also be given in the moist mash. CAM-PHO-SAL is not taken very well in the drinking water.

* Mycosis means mold infection.

Rakos,

A New Treatment for Coccidiosis

With the advance in knowledge regarding the various species of coccidia has come a better understanding of the methods of handling coccidiosis. Some types of coccidia are sensitive to certain types of acid treatment and for these types of coccidiosis the new RAKOS treatment has been developed.

RAKOS is a triple combination of strong acid medicine with astringents and antiseptics in concentrated form. It renders the bowel contents acid in a short time. It also constricts the blood vessels to stop bleeding and it kills the ordinary germs that often invade the system and help to cause death. RAKOS is fully as strong an antiseptic as carbolic acid which is the standard used in testing for germ killing properties.

If you have had problems with coccidiosis that have been difficult to handle, if you have tried other treatments and failed or if you want something from the very beginning that has every assurance of success, give RAKOS a trial this season.

The following reports are very characteristic of the results obtained:

Flock No. 1—About 450 birds, five to six weeks of age. The chicks were dying rapidly, the floor and ground were covered with bloody droppings and the whole flock looked very sick. The owner had given them up and said we could do anything we wanted to with them because they were no good to him. These birds had been on another treatment to no avail. RAKOS was given about 11 o'clock a. m. By night chicks had stopped dying and the next day the flock looked very much improved. By the third day the whole flock looked exceptionally well and the recovery from then on was uneventful.

Flock No. 2—A group of several hundred chicks, one week old, were coming down rapidly and microscopic examination showed plenty of coccidia. These chicks had not been treated.

Four ounces of RAKOS was used for every 200 chicks. The second day the owner came in and told us that the chicks had stopped dying and were looking fine.

RAKOS comes as a concentrated liquid in pint bottles sufficient for 100 to 150 birds at \$1.25, and in gallons sufficient for 1,000 to 1,200 birds at \$6.00.

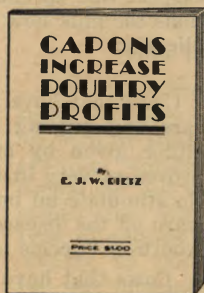
Get your supply from the dealer whose name appears on the back of this magazine and accept no substitute.

Caponizing

Many poultrymen make extra profit by caponizing some of their birds and keeping them over for the better market. A good demand with good prices can be obtained for capons.

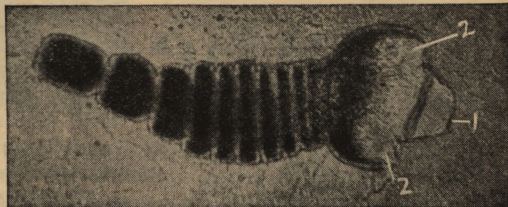
Caponizing is an operation that is simple and easy to learn. A set of instruments containing all the tools necessary for doing the work with full instructions come for \$3.50. If you want more information on caponizing we have a very excellent and complete book that sells for 25c. This book is well illustrated and is the most complete one we know of on the subject.

If our representative whose name is on the back page of this magazine cannot supply you, ask him to order a set and a book for you, or, better yet, maybe he is willing to caponize for you at a small cost per bird.



COMBAT WORMS with AVI-TABS

Before Paralysis Appears



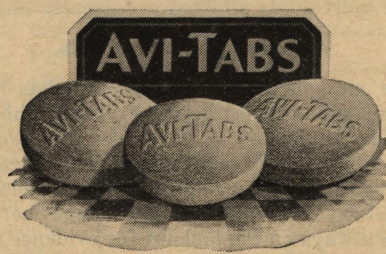
Microscopic tapeworm found in many cases of paralysis. (1) The part of the head where hooks are located. (2) Suckers. At the left a segment is ready to drop off.

AVI-TABS are the most effective treatment we know of for microscopic tapeworms and capillaria worms. Because these worms are buried in the intestinal lining where they are not easily reached or seen with the naked eye, flock treatment with AVI-TABS repeated for several days has a better chance to reach them than one individual treatment.

AVI-TABS are particularly designed for medication with moist mash. They contain Kamala for tapeworms, Nicotine for round worms and the well-known tonics so much desired by particular poultrymen.

These ingredients are all combined in a tablet which is dissolved in water and mixed with the moist mash.

AVI-TABS are widely used in Dr. Salsbury's Prevention Program to keep out worms and keep the flock in good condition. They may be bought in small packages and are economical for regular use at all seasons of the year.



Packages and prices described on page 14.

PLAN NOW To Have Your Birds Tested —for— Pullorum Disease

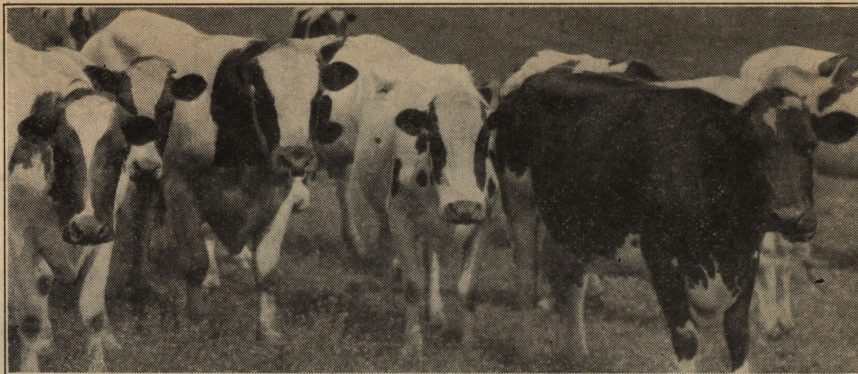
It will pay you in:

1. Better production of eggs.
2. Better hatchability of the eggs.
3. Higher livability of the chicks.
4. Removing a disease hazard.

There is everything to gain and nothing to lose by testing. Let the Salsbury Service Store do your testing—Name on back cover.

Use only Dr. Salsbury's ANTIGEN for testing.

Abortion in Cattle



ABORTION," "slinking the calf," and "premature birth" are common terms applied to the condition in which cows, particularly young heifers, fail to carry their calf to full term. Abortions may occur during any time of the gestation period but are most common between the sixth and the eighth month.

Causes.

An occasional abortion in a herd of cattle may be due to such injuries as slipping, fighting and other accidents but even these should be looked upon with suspicion. The most common and serious cause of abortion is a bacteria named *Brucella abortus* (Bang). The word "Brucella" is in honor of Dr. Bruce who in 1887 discovered this type of organisms in goats and the identification "Bang" is in honor of Doctor Bang, who ten years later discovered that abortion in cattle was caused by this type of germ. The disease is sometimes called contagious abortion or Bang's Disease and recently has been termed "Brucellais."

It has been estimated by state sanitary officials that from 50 to 60 per cent of all dairy herds are more or less affected with this type of abortion disease. It has also been estimated by people who are in position to know that perhaps 18 per cent of all breeding and dairy cattle are affected.

There is no disease in cattle of as serious a nature as abortion disease. The loss is two-fold. First, the crop of calves is diminished and second, the milk flow of affected animals is greatly reduced. In addition the health and vitality of the individuals affected are greatly impaired.

Abortion in Range Herds.

In range animals infectious abortion has not been as serious a problem as it has in dairy cattle. This is possibly due to the fact that most of the calves are dropped within a period of two or three months and the danger of infecting other cows is thereby reduced. Nevertheless, abortion disease is always threatening the range herds and the ranchers are always on the lookout for evidence of infection.



Relation of Abortion to Other Animal and Human Diseases.

The *Brucella abortus* germs have been found in animals other than cattle. In the Minnesota Experiment Station they were found in 76 per cent of all specimens examined for fistula of the withers and poll-evil of horses. In Michigan the germs have been found in poultry. In these cases the disease is usually confined to abscess formations. In humans Malta or undulant fever has been frequently associated with this disease in cattle. A few years ago great excitement reigned after the premature announcement by some investigators that Malta fever was contracted by humans who drank milk that came from infected cows. Since that time, however, it has been quite conclusively shown that very few cases of this ailment in humans can be traced to infected milk. The disease is more often contracted from swine than it is from cattle, and bruises on the skin are more fertile sources for infection than the intestinal tract. The cow affected with abortion disease has largely been absolved from blame in connection with this ailment in the human family.

How Contagious Abortion Is Spread.

Contagious abortion is spread chiefly through contaminated food. The discharges from affected cows may contaminate forage which the cow eats. The germs work their way through the digestive tract and localize in the reproductive organs. Sometimes they set up abscesses elsewhere.

The mucous membranes of the eye also seem to be a fertile field for infection. It is now considered that the bull plays a very minor part in the spread of the disease.

Symptoms of Abortion Disease.

If a number of cows in a herd drop their calves between the sixth and eighth month one should always be suspicious of infection. Even if the calves are carried almost to full term, we must suspect abortion disease, if there is a dead calf or a weak calf that is easily susceptible to scours and has a low vitality in general. Cows affected with abortion disease very seldom clean readily after calving. If the after-birth comes with the calf, a brownish, prune juice fluid around the cotyledons where the after-birth is fastened to the uterus is quite suggestive of abortion disease. Retained after-births and subsequent sterility with a persistent discharge from the reproductive organs lead one to suspect this specific infection. As a result of these infections the milk flow is reduced and garget is a common complication.

Treatment.

Cows that have already aborted should be given expert care and nursing until they recover. Various medicines either given by mouth or injected under the skin have proven of very little specific value in checking the trouble. To stimulate an immunity which will enable the animal to ward off the disease and recover promptly, vaccination with Abortion Vaccine is often recommended.

Cows that have aborted should be kept away from the balance of the herd, reducing to a minimum the chance of spreading the infection.

Prevention.

The greatest opportunity for controlling abortion lies in prevention. There are now two methods in general use.

One method involves the testing of all the cattle with the blood test. This detects the presence of abortion disease in the herd. All the cows that react to the test are removed and preferably slaughtered. Only the animals that show negative reactions to the test are kept and the premises are thoroughly cleaned and disinfected before the negative animals are turned loose. In some cases two separate herds have been maintained on the same farm, one herd consisting of all the reacting animals from which calves might be obtained to continue the breeding strain and the other the negative herd which is trying to be built up. This system has usually proven a failure because of the danger of carrying infection from the infected herd to the healthy one.

The plan of eradicating abortion, by testing has a very good theoretical background and is widely recommended by laboratory men. A great drawback to this method is that so many cows are affected that it means almost financial ruin for a person to sell off all reactors. The danger of a clean herd, having no resistance to the disease, becoming reinfected is very great and as a result heavier losses than ever from abortion will be suffered.

A recent report from Illinois shows that an otherwise clean herd suffered a rapid spread of the disease through the entire herd. Certain herds can be maintained by the testing and eradication plan, while others cannot.

Prevention by Vaccination.

THE SECOND PLAN is to vaccinate all virgin heifers and non-pregnant animals to develop an immunity that will carry them through the breeding period. Much work along this line has been done and the general results have been very satisfactory where the proper methods have been employed. The Experiment Station at Michigan has found that certain vaccines produced a very high degree of immunity when used on virgin heifers. Work done over a period of years by the government experiment station at Washington, D. C., has continuously shown the beneficial results of vaccination.

The following quotation is from a report by one of these research workers:

"Efforts to free herds from infection by blood-testing and the elimination or segregation of reactors have increased and have been successful in many instances, but it must be admitted that the practicability of these methods for the average infected herd is somewhat problematic. There is little doubt but that the disease can be eradicated from almost any herd by these procedures, but the expenditure of money and nervous energy of the owner in doing so and in afterwards maintaining the herd free from infection, in many cases, would be prohibitive.

"It has become evident that there is no single method of combating Bang's disease that is applicable to all herds. Where it is practical, the radical elimination of all animals of breeding age reacting to the agglutination test is best, but there are many herds in which less drastic methods must be used, among which are the following: complete segregation, partial segregation and other sanitary measures, and the building of clean herds from infected ones through their offspring. In badly infected herds, or those in which protection from exposure to infection is doubtful or impractical, the judicious use of vaccine prepared from *Brucella abortus* of low virulence and of vaccination during calfhood has been shown by recent researches to be worthy of trial."

With the good results obtained at these institutions and by cattlemen who have themselves adopted the method of vaccinating their cattle one must not overlook the great advantages to be obtained with the Abortion Vaccine.

How We Can Help You.

If you are interested in maintaining an abortion free herd we are in position to conduct blood tests on samples that you send to us. These tests are conducted for the small sum of 15c per test and there are no strings attached. Blood samples from each cow may be sent in any clean and dry vial properly stoppered with a tight cork so that the serum will not leak out.

How to Draw the Blood.

The blood may be drawn from the jugular vein, the tail or the ear. The last-named is usually the easiest. Clip away some of the hair from the edge of the ear. Make a cut with a sharp knife as when marking a cow by ear clipping. With a little practice you soon learn how to do this easily and quickly. Just a small nick in the vein near the edge of the ear is enough. Let the first drop or two run away because it contains a good deal of hair and dirt. Then collect enough in the bottle to be equivalent to a teaspoonful or more of blood. Stopper tightly so the blood will not leak out. Let the bottle lie on the side until the blood has clotted. Pack and send immediately by parcel post to Dr. Salsbury's Laboratories, Charles City, Iowa.

How to Vaccinate.

For the average farmer and stock raiser who may have some infection in his herd we offer the Abortion Vaccine (Bovine) produced under government license No. 195 and from cultures furnished from Washington. This is the type of culture that has been recommended by the government workers for the immunization of calves and non-pregnant animals in non-infected herds. The dose is 10 c.c. for the average size grown animal and may be re-

(Turn to page 15)

GARGET OINTMENT

A highly medicated ointment that will get results for local application to swollen quarters (caked bags) in milk cows. Must not be compared with the cheap ointments which contain very little medicine, often found on the market. Insist upon Dr. Salsbury's Garget Ointment. Keep a box on hand and use it early.

1 lb. box \$1.00 5 lb. box \$4.00

See our local dealer or write us.

*Garget and swollen quarters
heal readily and permanently
after a treatment with special*

Autogenous Bacterin

Made from your own cows.

Merely collect a sample of milk from the affected quarters into a bottle sterilized by boiling and send it to our laboratories for a free examination.

Special bacterins made at low cost.

Write for further information.

Round Worms in HOGS, SHEEP and POULTRY

can easily be removed by
proper dosing with

Dr. Salsbury's

WORM OIL

If you like a liquid for worming, here is a combination of the reliable Oil of Chenopodium in a bland base that has been properly balanced with drugs that lessen the shock and support the body of the animal treated.

May be given with a dose syringe or on a grain, mash or slop feed.

Prices—see page 14.

DR. SALSBUURY'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..... 1.00 400.....\$3.00 200..... 1.75 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 10090 .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.....\$.50 300.....\$2.00 125..... 1.00 500..... 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.
RAKOS	1 pint bottle Gallon bottle	\$1.25 6.00	Triple acid treatment for coccidiosis in young and old fowls. Antiseptic and astringent.
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 Quart can	.70 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. SALSBUURY'S LABORATORIES

BOX 140
CHARLES CITY
IOWA

ABORTION

(Continued from page 13)

duced in proportion for younger and smaller stock. As a rule the larger the dose used the greater the amount of immunity produced. Experimental work shows that this culture is safe to use. It does not localize to produce any other disturbance and it is safe from the human health standpoint.

One treatment is considered sufficient for each animal. Cattle are usually vaccinated 30 to 60 days before breeding.

The injection may be made in the region of the neck or behind the shoulder blade.

Apply some antiseptic solution to the parts first. Any hypodermic syringe holding 10 c.c. or more, with a needle 16 or 18 gauge is satisfactory.

A Program of Attack.

The following program of attack on abortion disease is the one that has given the most outstanding results and is one that we recommend for your adoption.

1. As the heifer calves near breeding age vaccinate them with 10 c.c. of Dr. Salsbury's ABORTION VACCINE (Bovine). From 30 to 60 days, breed them as usual. No special care is necessary following vaccination. The work is easy to do.
2. At the same time vaccinate all other non-pregnant animals.
3. Cows that are infected and have aborted before may also be vaccinated without danger by using Dr. Salsbury's ABORTION VACCINE (Bovine). Very often such vaccination stimulates active immunity against disease germs.

The immunity from one vaccination practically always lasts for the term of one pregnancy and very often lasts for the life of the individual. If there is unusually heavy infection there is danger of an outbreak the second year. It is perfectly safe and satisfactory to vaccinate the young stock each year from 30 to 60 days before breeding.

Many dairymen and stockmen have adopted this method of keeping ahead of the abortion problem, namely vaccinating each year so that a fresh immunity will be induced in each animal just before breeding.

Dr. Salsbury's ABORTION VACCINE (Bovine) is offered in the following size packages and at the following prices:

10 c.c.— 1 dose.....	\$.50
60 c.c.— 6 doses.....	2.00
240 c.c.—24 doses.....	6.00

Blood Testing.

Blood tests for contagious abortion may be done in our laboratory or you may do them yourself. We have a complete Testing Cabinet which will test 100 head of cattle for \$5.00. Additional ANTIGEN may then be purchased at the following prices: 100 tests, \$1.10; 500 tests, \$4.50.

There is real satisfaction in knowing whether or not your cows are affected. With testing so cheap and easy, there is no reason for not having this information.

STOMACH WORMS

For stomach worms in sheep use a special liquid prepared for this purpose. Pint bottle, enough for 50 sheep—\$1.25

SHEEP HAVE TAPEWORMS

For tapeworms in sheep use 3 to 4 Dr. Salsbury's KAMALA CAPS, depending upon the size of the animals. There is nothing as satisfactory for tapeworms in sheep as KAMALA CAPS.

COMMENTS ON THE New Poultry Health Manual

"Allow me to congratulate you on this excellent booklet of poultry disease information. I consider your book a valuable addition to our poultry library."—Roy Lynnes, Poultry Supply Dealer, Chicago, Ill.

"We think the world of your latest Manual and are studying it carefully. My husband is doing very nicely in diagnosing the different cases. I used to be a trained nurse."—Mrs. John Gordon, Kiron, Iowa.

"Want to congratulate you on your very wonderful 'Poultry Health Manual.' Especially the explanation of what is popularly called 'white diarrhea' as given on page seven. This information has been withheld too long and has made every man in the field go through a long explanation whenever he tried to describe the real nature of this condition. The press has been slow to discuss it as many remedy companies have sought to advertise and sell 'cures' for the condition. I have more than once been challenged that they have not 'seen' anything about 'it' in the paper.

"The discussion of laxatives and their uses on page 24 and the notes on lung troubles are very fine.

"Only wish we could afford to pass a Manual to every chick customer. The illustrations hold the attention till the reader has seen every page. As every piece of literature, it must be sold to each customer by pointing out the illustration or paragraph that applies to their problem and then it will be used instead of being 'filed' behind the clock and forgotten.

"Thanking you for prompt attention to the specimens we have sent you from time to time, I am,

Victor W. Flint, Manager,
Winona-Wabasha Co. Hatcheries."

"I received a copy of your new Health Manual from Johnson's Hatchery a few days ago. I knew through your announcements that you were working on one but what I saw was way beyond my expectation. I have studied poultry and poultry diseases at college and have done my share of reading on all literature pertaining to poultry but your manual is the most concise and easily understood piece of literature I have ever read. I am raising poultry on a commercial scale. I have already started over 6,000 baby chicks and you bet every one of them has been started on

PHEN-O-SAL.—Everett I. Pownall, West Branch, Iowa."

"Your new Manual just landed and as I was looking at it in came a customer. 'Chix had coccidiosis.' Looked it up in the new Manual. He bought the last 300 PHEN-O-SAL Tablets I had and offered me 50c for the Manual. Boy, I think they are a wonderful book at first glance.—Streator Hatchery, Harvey Hiatt, Streator, Ill.

"The copy of the book you have sent us has been scanned very carefully and must say that it contains some real worthwhile, practical and valuable information for every breeder of poultry."—Poultry Press, Ellis L. DeLancy, York, Pa.

"We are very much impressed by your Poultry Health Manual. This little booklet not only approaches the subject from the right standpoint, but is also highly interesting and practical."—The Poultry Item, S. L. Alt-house, Sellersville, Pa.



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RHODE ISLAND RED JOURNAL, a publication for those who are interested in Reds. Brimful of information that will help you to breed, raise and improve your flock.

THE LEGHORN WORLD. A veritable mine of information for those who are interested in Leghorns. Keeps you in touch with the Leghorn breeders of the country.

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OUR *Personal* MESSAGE

FROM NOW until fall many of you poultry raisers will be wondering why some of your birds do not grow as fast as they should, why they do not feather out nice and smooth and flesh up the way you would like to see them.

There must be something wrong with these birds or they would do better on the feed they are getting.

The chances are there is something wrong. We know from observation and past experiences in this neighborhood, troubles are due to worms. Some years ago we didn't know there was such a thing as worms in poultry. Neither did we know that there was such a thing as worms and other pests on fruit trees. We saw the worms, of course, in our apples, and other fruit, but did not know how they got there or what to do about it.

Now every one who expects to raise choice fruit plans a regular schedule of spraying. It is the same way with chickens. To get them to grow well and develop the way they should they must be treated for worms just as regularly as the fruit trees are sprayed.

Since worms start to develop quite early it is important that they be removed before they injure the bird too much. Our advice is to treat the flock with Dr. Salsbury's KAMALA-NICOTINE WORM CAPS right away. With the new low prices on worm medicines this treatment is quite inexpensive. In many cases we find that it pays to start the birds on a regular treatment of AVI-TABS as a worm preventive measure and to keep the small microscopic worms in check. Don't let this seem like a complicated program. It is very simple if started right.

If you notice yellow, foamy or other off-colored droppings it is an indication of inflammation in the bowels which should be treated at once with PHEN-O-SAL, using eight tablets to the gallon of drinking water.

There is good money in poultry if the birds are raised right. But if they are allowed to go without the necessary treatment, then they will be as worthless by fall as a bushel of wormy and cull apples.

Whenever you need help, personal advice regarding your flock or anything in our line, drop us a card, call us by phone or come in to talk things over.