

The **POULTRY**

HEALTH

Messenger

FEATURED IN THIS ISSUE

Mid-Winter Management Number

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**NOVEMBER-DECEMBER
1933**

The POULTRY HEALTH Messenger

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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!



Not just today I wish you peace
And certainty and song,
I wish you all a friend can wish
Today and all along.
Let Christmas Day remind us of
The folks around us we can love,
Of things to do, and things to
say
Through all the year—not just
today.

Holiday Greetings

ANOTHER Holiday Season is before us. Lives there a man, woman or child who does not get a genuine thrill during that period of time between Thanksgiving and New Years?

And why? Because this is the season of the year when our thoughts turn largely from ourselves to others, when we try to forget purely selfish motives and give some thought to the welfare and happiness of others. That is when we experience the joy of becoming happy by making others happy.

This is also a season of taking an inventory of our blessings and giving thanks therefore. Some of us may wonder what there really is to be thankful for in times like these. Let us remember that Thanksgiving Day was originated during a period of hardship. Our forefathers who did not even dream of the modern conveniences and the present day standard of living, had to endure hardships that were real. Nevertheless they found occasion to set aside a special day to give thanks for their blessings. In spite of adverse conditions which we have to contend with in our topsy-turvy world today, we still have much more to be thankful for than the people who originated Thanksgiving Day.

The past year has yielded an abundant harvest. There is too much pork, corn and wheat for the public to consume and too much cotton for people to wear. Surely actual suffering will not go on in a land of such great plenty. The problem of over production is great but think how much greater the problem would have been had there been a shortage and people were actually starving and naked because there was not food and clothing enough to go around. Those conditions do happen in this world and they are far worse than overabundance.

If we only look back in history we find that the depression which followed the Civil War was much more severe and lasted longer than our present one. And still the country pulled itself out. Then if we look about us and give some thought to the thousands of people in circumstances much worse than ours, we will have plenty of occasion to give thanks. That will then also give us an opportunity to practice the Christmas Spirit by helping those in distress and thus to build contentment and peace in our own hearts.

These principles apply to business as well as social intercourse. The businessman who always keeps uppermost in his mind the spirit of service to his customers is the one who will ultimately profit the most.

For us it has been a joy during the past year to continue and extend our free service plan including such things as free advice by letter to poultry raisers who have trouble in their flocks, free laboratory diagnosis of sick birds, free service calls by our large force of field service men, etc. In order to widen this field of usefulness we offered our third annual three-day short course here in Charles City. Now this same feature has been inaugurated as help for dealers by bringing to the various states a full day school of instruction handled by a corps of competent men. A modern laboratory building now under construction will enable us to give more efficient service than ever before. A school on poultry diseases lasting four weeks will start soon after the first of the year and is only one more development in the general plans of Dr. Salsbury's Nation-Wide Service.

We wish all of our readers a happy, joyous holiday season and want to offer as our Christmas Gift the assurance of more help and better service than ever before.

DR. SALSBUURY'S LABORATORIES,
By



Dr. J. E. Salsbury
President.

WINTER Management of POULTRY



THE greater cold storage holding of eggs this year should not alarm the poultrymen. The Bureau of Agricultural Economics release under date of October 1, 1933, shows 10,146,000 shell egg case equivalent in frozen and shell eggs. Each case represents 30 dozen eggs. While this is more than last year it is less than the five year average.

Egg production still remains one of the bright spots in farming and a profit can be made on the laying flocks this winter if the pullets have the breeding back of them and have been properly grown out during the past summer. Economic production of market eggs depends on right breeding, correct housing, efficient management and a proper feeding program. Among these, correct housing is perhaps the most important.

Winter Housing Must Furnish Comfort

The normal time for birds to lay is in the spring. The conditions favorable for good egg production are warmth, long feeding hours, and an adequate supply of green feed, bugs, worms, and other materials supplying the vitamins, minerals, protein and other essentials for making a perfect egg that will hatch strong chicks. Thus we see the provision of a warm house as of first importance. To overcome the rigors of winter it is necessary to provide a cheerful, clean building with the spring time elements in the mash and warm water in abundance. Health and vigor are of the utmost importance. All of this can be brought about by the proper construction and management of the house.

The house should furnish ample space, four square feet of floor space per bird. This prevents crowding and gives ample room for the birds to move around in comfort during the day. Birds over-crowded will not do well. Ample roosting space is required. A minimum of 2 feet to each three birds should be provided. There should be one nest for each 4 hens and in case the birds are trap nested one nest for each 2 birds. For Leghorns these nests should be constructed 12 inches square, for the larger birds as Reds and Rocks 14 inches square, and for the large breeds as Brahmas 16 inches square. In cold weather eggs should be gathered at least three times a day and before they have a chance to freeze. Good hours for gathering the eggs are 11 a. m., 1 p. m. and 3 p. m. because most eggs are laid from 9 a. m. to 3 p. m.

The house should be constructed so as to be comfortably warm. The front and ends may be provided with windows furnishing plenty of light and cheer during the day. An intake baffle board arrangement located in the front wall allows ample fresh air to pass into the house without causing a direct draft. Too much moisture favors freezing of combs and wattles when the temperature in the building falls low enough, and also causes the walls to frost. This condition may be avoided by properly arranged air outlets to provide a complete change of air in the house. A ventilating shaft should be arranged at the back wall of the house. This shaft should be 12 by 12 inches and extend from within one foot of the floor to three feet above the highest point of the building. The poisonous product given off from the body through the air breathed out of the lungs is heavy and falls to the floor. The air coming through the front wall ventilator passes back striking the back wall and passing under the dropping boards and out through the ventilating flue carries

with it the poisonous gases and moisture. The floors may be kept dry by proper construction. If of concrete construction, 10 inches of underdrainage in the form of crushed rock or cinders should be provided under a 2-inch surface of concrete. If the floor is dirt it should be raised inside the house for several inches above the outside ground level and the ground sloped away from the building to carry off the water. If the floor is of board construction two layers of tongued and grooved flooring should be laid crosswise, 18 inches above the ground level. The space under the building should be underpinned for the winter. Drafts must be avoided, this means there should be no cracks in the wall through which wind might blow onto the birds. To increase warmth corn fodder to the depth of 18 inches may be placed around the ends and north wall.

The house should be kept clean. The dropping boards should be cleaned once a week. Many poultrymen have dispensed with the dropping boards, placing the perch poles at the back wall and about 2 feet above the floor, wiring in the floor space under the perch poles to prevent the birds from gaining access to them.

Since an egg is 65 per cent water, considerable water is required for egg manufacture as well as body support. This water must be furnished when the bird needs it or the machinery is interfered with and this always affects production. The bird does not drink much at a time but requires it often. Set the water pans on slatted platforms 18 inches above the floor near the feed hoppers and the roosts. In cold weather the water should be warm.



Infectious form of roup contracted from bird shown on page 4.

This can best be accomplished by a specially constructed water container and heater. The heat may be supplied by a kerosene lamp, or, where electricity is available by an electric heater.

The Feeding Program Must Be Right

It requires approximately 4 ounces of feed to maintain the body and make a two ounce egg. If the building is too cold additional drain is made on the body fuel

(fats and carbohydrates) to keep up additional body heat. This again interferes with manufacture of the egg and a curtailment of production may follow if the shock is too great. Layers should not lose weight. A careful check up should be periodically and regularly made to determine body condition and the grain allowance increased or decreased as required.

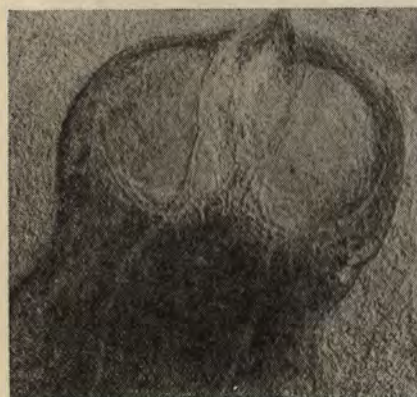


Infectious form of roup. Note the swollen eyelids.

The highest price for eggs is always obtained in the months of October, November and December. Pullets should therefore be in heavy production during these months. Proper feed and the right feeding program is one of the prime essentials. Two methods are used. One, the all mash method in which all ingredients are incorporated in the mash. The other, the mash and grain method in which the mash is kept before the layers at all times and grain given in the evening or in the evening and morning. Either method works well when properly followed. The feed must contain adequate vitamins for health as health is essential for heavy production. This is also stored in the yolk of the egg. Minerals are essential for the bone, blood and body tissues and for the shell and yolk. The shell is 97 per cent calcium carbonate so that the good layer draws heavily on this one mineral since 11 per cent of the egg is shell. Protein is required for the muscle, blood, nerves, and feathers and is used to construct the white as well as the yolk of the egg. For the protein (albumin) maintenance definite kinds of amino acids (the protein elements of which there are 21) are required. Some of the most important amino acids are not furnished in sufficient quantities in grains and mill by-products but are supplied adequately in such animal products as milk, meat meal and fish meal. The proper relations must exist in the ration between the proteins and the carbohydrates and fat as these two latter compounds are not only used for construction of tissue and fat in the body but also for the production of heat and energy so essential to the wellbeing of the bird's body. Sunshine can be supplied by the addition to the mash of cod liver oil and greens in the form of alfalfa leaf meal.

Longer Days Needed

During the late months of the year the days are gradually becoming shorter until Christmas, after which they commence to lengthen. This means shorter feeding hours



Greatly enlarged head of a small tapeworm as seen through the microscope. The "eyes" are large and act as suckers. The "nose" is pointed and very movable.

and the consumption of less mash than in the longer days. Since speed of production depends directly upon the amount of mash consumed each 24 hours the length of the day should be increased. This is done by supplying artificial light. As the days grow shorter, there is danger of a molt especially in pullets hatched very early. The order of molt in the bird is to first cast the neck feathers, then the body and last the main tail and wing feathers. The late hatched birds seldom go beyond a neck molt. A bird does not molt and lay at the same time so that when a neck molt commences, laying temporarily stops with the result that production is curtailed. The application of lights together with a wet mash each afternoon (6 pounds to the 100 birds given as hot as they can eat it) will do much to prevent such occurrences. There are other causes for throwing birds off lay such as moldy or spoiled feed and irregularity of attention. In supplying the additional light two methods have been used. First, the extension of the light in the morning or evening by aid of barn lanterns or by electric lights. Second, by using all night lighting. In the all night lighting method dimmer lights are used. In applying the lights the illumination must fall on the water and mash containers and also be so arranged that the birds can see to get off and on the perches. If so-called midnight lighting is done, using bright lights, it is better to apply it from 11 p. m. to 1 a. m.

Efficiency Factors

Efficiency in a flock is essential. Every bird must work. This means that flocks should be culled as often as is necessary to keep out all birds that are judged as being no longer capable of profitable production. Keeping the flock in the higher brackets of production means more economical eggs and more profit or labor income for the poultrymen. When sick birds first appear they should be removed from the flock—today, not tomorrow. Often by promptly removing the first sick birds from



The result of frozen feet. Gangrene often sets in.

the flock a serious infectious outbreak is stopped. In so far as is possible all sick birds must be kept out of the flock. The birds in the hospital need the same feed, water and care as the flock. Treatment should be given twice a day and all incurable birds promptly killed and burned.

Vent Picking Troublesome

Vent picking and feather eating are troublesome problems. Chicks brooded in large numbers may contract more or less cannibalism and feather eating. This vice may continue, to a more or less degree, when the pullets are on range and still be practiced by the birds after they are taken into the laying house in the fall. During the winter months it may become very vicious. For the flock that is housed several things can be done. The fiber content of the mash may be raised to 8 or 9 per cent. The birds can be kept busy by using an abundance of litter on the floor in which is thrown, several times a day, grain so that the birds are kept busy scratching. The litter should be changed often enough to keep clean and may consist of either straw, shredded stover, shavings, or corn shucks. The windows may be painted red with a special preparation and if cannibalism is present 10 per cent of the flock can be treated with Stop Pick. If vent picking is in evidence and the birds run along the run board to attack the hens just after they have expelled the egg, the nests may be turned toward the wall. If this does not stop this practice at this point the run boards may be left off the nests. If there is a tendency to constipation give ½ pound Epsom salts mixed with 6 pounds of mash. This quantity is sufficient for 100 birds. Feed in a wet mash in (Continued on page 15)

for WORMS in Chickens, Ducks Geese or Turkeys

Use and Recommend

Dr. Salsbury's

**Kamala-Nicotine
Combination Worm Caps**

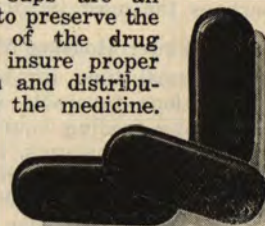
It contains the right dosage for round and tapeworms. It is easy on the birds, economical to use. Do not take chances on cheap medicine but use the standard, recognized Salsbury product. Prices and packages on page 14.

For Tapeworms in Chickens

Use the Pure

KAMALA CAPS

These Caps are all coated to preserve the quality of the drug and to insure proper solution and distribution of the medicine.



FLOCK TREATMENT

When your flock needs a general treatment, if you are using a dry mash method, depend upon

Dr. Salsbury's

AVI-TONE

For the moist mash method

use

Dr. Salsbury's

AVI-TABS

These medicines combine tonics with the well-known worm removing medicines such as Nicotine, Kamala, Areca Nut, etc. It pays to use the combined wormer and tonic as a flock treatment.

Ask Your Dealer Whose Name Appears on the Back of This Magazine.



Dr. J. E. Salsbury,
Dean of School.

Dr. Salsbury Announces

Four Weeks School of POULTRY DISEASES

WITH the growing popularity of the annual three-day short course on poultry diseases held in

Charles City, Iowa, by the Dr. Salsbury's Laboratories and the increased interest in the one-day schools held in the territory there has come an ever increasing demand for more information on poultry diseases.

To meet this demand Dr. J. E. Salsbury, President of the Dr. Salsbury's Laboratories, has now completed plans for a four-week school on poultry health and management to begin about January 15, 1934, or as soon as the new laboratory building has been completed.

Poultry raisers everywhere are becoming more and more disease conscious. They know that they cannot make money from poultry unless the flock is in good health and vigor. They know that the birds cannot get the full benefit from even the very best feed unless the fowl's physical condition is such that the feed can be properly assimilated. That accounts for the great demand for more information on part of poultry raisers, hatcherymen, service men and feed dealers. It also explains the many calls for more men trained along the lines of poultry disease by hatcherymen, produce and feed dealers, and opens the opportunity for employment on part of those who can qualify for positions of well trained service men.

This requires a thorough fundamental knowledge of everything that affects the health of the poultry flock. To supply this knowledge will be the purpose of Dr. Salsbury's School of Poultry Diseases. This school will be entirely practical and yet it will be based on scientifically sound and proven facts. Those who have attended our three-day short courses on poultry diseases will vouch

for the practicability as well as the scientific accuracy of our courses of instruction.

The faculty will be composed of a corps of regular instructors and a number of special lecturers. Among them are some of the most competent poultry disease specialists in America. They are men with a life-time of experience in poultry diseases. A brief review of their qualifications will be found under the pictures of these men appearing in connection with this article.

The school has been planned to serve two main groups—1. Those who wish to apply the knowledge in their own business so as to increase their profits and enable them to give better service to their customers. 2. Those who wish to fit themselves for salaried positions as servicemen for hatcheries, feed dealers, produce houses, and high school graduates who desire special vocational training in poultry management.

This is the first time that such an intensified course of training on poultry diseases has ever been offered, and it should prove a valuable asset to the poultry industry. Every lecture will be brim full of practical information and every demonstration will be made in such a way that the student can duplicate the work and learn how to best perform the various methods of culling, testing, vaccinating, etc. Everyone is interested in knowing more about disease germs, parasites and worm eggs. The course has been planned so that each student will have an opportunity to work out all of these things in a modern laboratory, to study them under the microscope and thereby be in better position to talk intelligently on these subjects.

A catalog of the school, containing detailed information on the subject taught, expenses, accommodations in Charles City, etc., has been prepared and will be sent free upon request. Address your inquiries to Dr. Salsbury's School of Poultry Diseases, Charles City, Iowa.

The Instructors



Sivert Eriksen, D. V. M.

Dr. Eriksen was raised on a farm and knows farm conditions. He graduated from the Kansas State Agricultural College in 1920. Was employed as instructor in pathology at the Kansas State College and later held positions as associate in pathology University of Illinois and as pathologist at the Missouri State Poultry Experiment Station. He has had a wide experience in commercial work, is laboratory director of the Dr. Salsbury's Laboratories and is largely responsible for the popularity of Dr. Salsbury's annual short course on poultry diseases.



B. F. Kaupp, B.S., M. S., D. V. M.

Dr. Kaupp is one of the best known poultry disease specialists and author of poultry books in America. He has held positions as veterinarian in the Bureau of Animal Industry, U. S. Department of Agriculture; director of anatomy, Kansas City Veterinary College; professor of pathology and bacteriology, Colorado Agricultural College; head of the poultry department, North Carolina State College. Has been honored for distinguished service by the World's Poultry Congress. He has devoted much time to research in poultry diseases, anatomy, physiology and nutrition.



R. C. Surface, D. V. M.

Dr. Surface is a graduate veterinarian. He has done post graduate work and was later assistant in the department of bacteriology and pathology, Kansas City Veterinary College. Served in the Bureau of Animal Industry, U. S. Department of Agriculture, doing educational and field inspection work. Later he was selected general manager of a Kansas City veterinary laboratory engaged in manufacturing pharmaceuticals and biologics. After that he established his own bacteriologic and diagnostic laboratories, confining his entire time to work with poultry.

Routing the Roup

An Original Story, in Which Jeff Proves
That He Knows His Ropes and His Roup

By WILLIAM HERBERT RICE

SEPTEMBER and the Morrisons were back at Tuper-ton Corners. Janet—her mouth full of pins—was draping the store window with velvet, and Jeff—his mouth full of talk—was placing a display of poultry remedies, when in breezed "Gabby" Jawn, the community's vocal newspaper.

"Mornin', Doc!" greeted the venerable news monger. "So you an' th' Missus are back from the wild and wooly, eh?"

"Seems so, Gabby; but why the 'Doc'?"

"Well, ain't you? I hear say you got a deeploma out Iowa way."

"Not exactly," grinned Jeff. "It was a certificate for completing a short course in poultry diseases. At that," he added, "it means more than a diploma to me—considering."

"Considerin' which?"

"Why, what I learned. You see, Gabby, every year, hatchery, poultry and service men from all over journey to the Dr. Salsbury Laboratories at Charles City, Iowa, for that course; and this summer, the five hundred of us who treked there from thirty-two states, learned that that's the chief place where poultry health helps are hatched."

"Do say!" ejaculated Gabby. "I s'pose likely, now you can take down an ailin' hen, fit 'er up with new gears an' set 'er up good as new?"

"Not quite, Gabby; but I learned what's inside her chassis, what ails her, the cause, how to keep her well—or cure her, and how to spot parasites with a microscope. Every day, the Doctor's biological experts conducted clinics and post-mortems, taught us vaccination, posting, testing and how to make bad bacteria roll over and play dead. Besides, there were lectures by professors, specialists and practical poultry people—big shots, you know—from eight states. Atop of all that, there were advertising whizzes, who taught us the latest wrinkles in merchandising methods, and even window dressing. You see—don't you—what Janet and I are doing to that window—Huh-o! There's the phone.

For five minutes, Jeff carried on a feverish conversation. He edged in a "yes" several times, jotted an address and hung up.

"What's her name?" smiled Janet.

"Mrs. Richard Summerfield Spence, if you please," intoned Jeff. "Park Avenue, New York City and 'The Lindens,' Locust Valley, Long Island. She—"

"Summerfield? Summerfield? broke in Gabby. "Cripes, Doc, she's the daughter of millionaire Summerfield—you know, the famous anti-quarian, or Unitarian, I forget which. She has the ritziest estate and th' suprisin'ist pedigreed poultry on Long Island! If you land her, you'll be—"

"Sitting pretty," glowed Janet, wriggling from the window and hugging her husband. "Take your time, dear," she urged, "but—hurry!"

*The journey of the Morrisons to Charles City, Iowa, was told in the September-October issue of the Messenger.

Two hours later, Jeff was back.

"Well," questioned Janet.

"It's a sad story, matey," he sighed. "You see, the Missus simply must keep two jumps ahead of her swank and swagger set; so, she went in for fancy poultry—and how! She has crested Houdans, Sultans, silver duck-winged and black-tailed red Leghorns, Golden Minorcas, Anconas, Andalusians, Spangled Hamburgs, Silver Laced Seabrights, a hallelujah chorus of pigmy Bantams and—the whole lot—wrecked."

"Gracious! What happened?"

"Plenty! Olson (that's her poultryman) took 'em to an up-state fair, where the over-crowded, poorly-ventilated poultry building was closed tight at night, and thrown wide open each morning, exposing the chickens—reeking with body-heat—to dangerous draughts. They came home dragged down with blue ribbons—and colds. Atop of that, Olson got sick and couldn't doctor them, and now they're sneezing around with roup—plain, mixed and fancy. But," he grinned, "I didn't tell the lady that."

"Why not, Jeff?"

"Too plebeian, Janet; too bourgeois, for such class. 'Madam,' says I, 'my diagnosis discloses that the weakened membranes of your fowls eyes, nasal passages and epiglottis—super-induced by inflammation of the upper respiratory tract—have been attacked by definite, infectious bacteria, resulting in Sinus, Ocular and Diphtheretic Roup.'"

"Oh, DOCTOR!" giggled Janet. "Fawncy that!"

For a full week, Janet was a lonesome widow. Never leaving 'The Lindens' Jeff—knowing his ropes and his Roup—and armed with time-tested remedies, attacked the enemy on all fronts. Like a general, he inspected the flock, segregated the deep-seated cases from the mild, then—anticipating possible unusual and stubborn developments—sent several infected birds by airplane to the Salsbury Laboratories and had an Autogenous Bacterin prepared. Three times, during the first night, he sprayed his feathered patients, gasping on their roosts, with Cam-Pho-Sal, and—next day, buckling down to biz—sealed their houses and sprayed hourly. To heal the inflamed tissues of their intestinal tracts, he dissolved Phen-O-Sal tablets in their drinking water; he painted their roosts with Nic-Sal, to relieve them from blood-sucking mites and liber-tine lice; he cleared out the cheesy accumulations in their nasal passages with a Cam-Pho-Sal nasal spray, wormed out the ever-present internal parasites, with Avi-Tabs in a sloppy mash, and strung a barbwire entanglement against disease germs by vaccinating the whole flock with triple-tested Mixed Bacterin.

At the end of seven days, the poor little rich chickens, responding to Jeff's ministrations and medicines, ceased their sneezing, snoring, sputtering and snorting. Fun replaced funerals, heads perked up from under wings, eyes opened, roosters, feebly winked at their lady friends, apathy gave way to amazing appetites, and Jeff—relieved by the re-



This is the syringe "Doc" Jeff Morrison used in vaccinating the Locust Valley flock of chickens. It is all metal and glass, very durable, lifetime syringe and sells complete with 2 needles for \$2.75.



This is the Nasal Syringe Jeff used for cleansing the nasal passages. The latest design is improved over that shown in the above picture. It is the real thing for straightening out the early cases of watery eyes and noses. Use Cam-Pho-Sal solution in this syringe. The Syringe may be had for 85c.

turn of Olson—drove wearily home and slept 'round the clock. Awakened at last, in late afternoon, he heard the voice of the vocal newspaper, broadcasting to Janet downstairs in the store. "I'm tellin' you, Mrs. Morrison," Gabby was saying, "Jeff—Doc, I mean—is a suprisin'ist uncommon sort."

"He's what?" bridled Janet, flushing red. "What do you mean, Gabby Jawn?"

"Why, look how he saved that rousy regiment over to the Spence's—a right down miracle, folks are sayin'. Most fellers, doin' such, would have grabbed all the glory; but Jeff—that is, Doc—he shares up, even Stephen, with Dr. Salsbury's corps of poultry disease experts."

"Well," smiled Janet, "shouldn't he? There's one thing about my Jeff; he believes in giving credit where credit is due. Thank goodness, he isn't afflicted with 'I' trouble."

We Vaccinated for Pox

It is of utmost importance for us to have our flock healthy and doing well due to the fact we sell thousands of eggs and poults each year. This year we are raising about three thousand turkeys.

We have had wonderful success with your products in our business of raising turkeys the last few years. We had an outbreak of Chicken Pox in our flock last fall and after vaccinating with your product we had no more trouble.

We also used your MIXED BACTERIN at the same time and did not have any trouble with roup or colds all winter in our flock of five hundred birds. We are using your products this year more than ever before and have recommended them to all of our customers.

We have used your PHEN-O-SAL and CAM-PHO-SAL for baby chicks and we have had perfect results in each case.

OTTO J. AHNEMAN, Proprietor,
Pioneer Turkey Farm,
Wells, Minnesota.

FATTEN YOUR TURKEYS

Turkeys can profitably be fattened for a few weeks before selling, especially with the present low prices of grain.

The problem of fattening turkeys for market is largely one of satisfying the need for rapid growth. This is why juicy, tender turkeys cannot be produced on an exclusive grain ration, because the grains alone lack the proteins and minerals necessary for a rapid growth of meat, bones and feathers. Turkeys on range should develop normally on a mash containing ground grain, 15 to 20 per cent of a protein supplement, and 1 per cent of salt.—Poultry Tribune.

Don't stop to figure out why a black hen lays a white egg. But get the eggs, or get the black hen to lay more white eggs.



In Denmark produce houses women do most of the candling. Eggs are candled in a tray over a bright light.

FOWL POX

and CANKERS



will give a lot of trouble throughout the winter if the birds are not properly immunized. When birds are in production and fowl pox threatens, vaccinate with Dr. Salsbury's Pigeon Strain Vaccine. Highly potent, double tested and a safe vaccine to use.

Fresh stock just produced from healthy pigeons.

Comes in packages of 100 and 500 doses each with brush and instructions ready for use.

Prices on page 14.

Mid-Winter Losses

Are Generally Due to

Cholera and Typhoid

Whenever chickens die rather suddenly, get either dark or pale around the head, are dead on the nests or under the roosts and have green or yellowish droppings, control the trouble by vaccinating with

DR. SALS'BURY'S

Cholera-Typhoid Bacterin

SAFE and Cannot Produce Disease

CERTAIN—it contains the maximum immunizing properties. INEXPENSIVE—you get 1 full c.c. in every dose and one treatment is practically always sufficient.

There is something about Dr. Salsbury's Bacterins that makes the users come back for more.

Get full information from the dealer whose name is on the back of this magazine.



COLDS, ROUP—

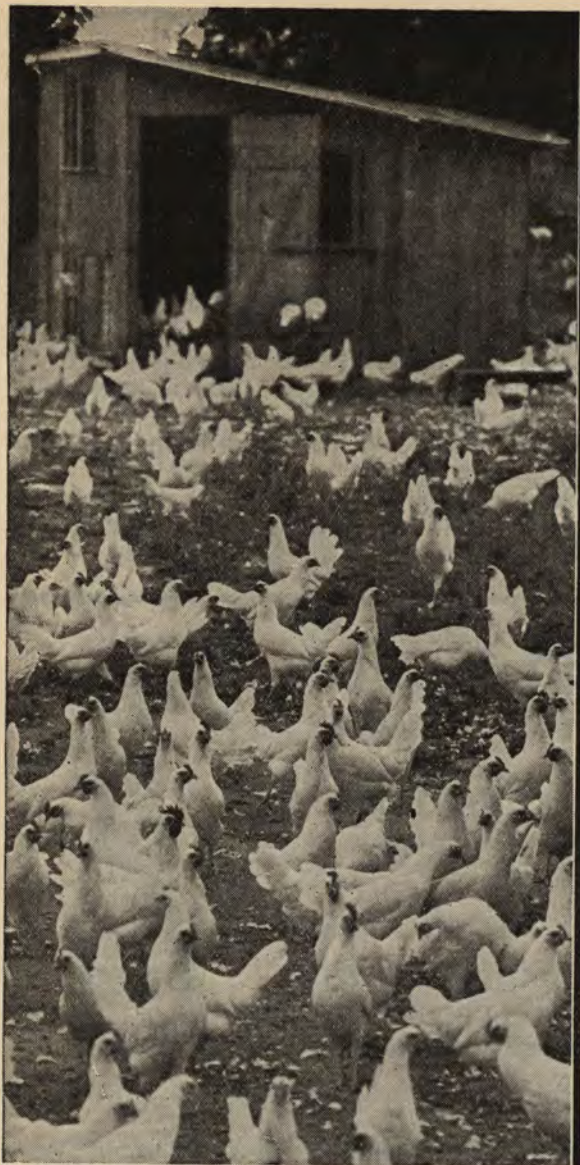
and various bronchial troubles are common in the winter. Over 80% of them are due to disease germs. Immunize against the germs with Dr. Salsbury's

MIXED BACTERIN

This is one of the better bacterins because it has been made right so as to bring out the greatest amount of immunity producing substance.

The extreme popularity of this bacterin is due to the excellent results obtained. Packages and prices appear on page 14 and remember that you get one full c.c. of triple tested bacterin for each dose listed.





Higher DEATH LOSS IS ROBBING POULTRY OWNERS of PROFITS!

Says Iowa State College Report

"The death loss problem deserves special mention this year since the average loss of hens was 19 per cent as compared to 16 per cent last year," says the 1932 Poultry Calendar Report of Iowa State College. And the damage done to flocks does not stop there, for as the report says, "In many cases the disease or parasite trouble spread to the young stock to cause further loss."

Previous to making this report a study had been made of a number of flocks for the purpose of determining death rates, production and income to the owners. It was found that—

The ten most healthy flocks had an average death rate of 7%.

The ten most unhealthy flocks had a death rate of 34% . . . OVER ONE-THIRD OF THE BIRDS IN THE FLOCKS.

The highest mortality among layers was 48.6%, the lowest 1.9%.

The hens in the healthy flocks laid an average of 36 more eggs than the hens in the unhealthy flocks.

The labor income per hen averaged only 25c per hen for the owners of the unhealthy flocks, while it was \$1.04 per hen from the healthy flocks . . . OVER FOUR TIMES AS MUCH.

These facts show, as the Iowa State College Report further says, that "It is especially important that flock owners do something effective . . . to rout these diseases and parasites from the affected flocks." In other words, the healthier you keep your flock the greater the egg production and the bigger your income.

Annual Pullet Death Rate Unnecessary and Costly

The annual pullet death rate, as revealed by the report quoted above and many other similar reports, is so high as to be startling. Such losses are also quite unnecessary when the causes are known and the cures available are so effective. Why should as many as 40 birds out of every 100 die before they have finished their first laying year?

Let us look into this situation, first the causes:

1. Repeated breeding from pullets of insufficient vitality.
2. B.W.D. infection.
3. Internal and external parasites (worms, lice and mites).
4. Chronic coccidiosis.
5. Infectious diseases such as cholera, typhoid, roup and colds.
6. Lowered vitality as a result of disease.

Any flock is subject to any and all of these death-dealing factors. And the worst part of it is, you may not realize just how high the death rate really is. The loss of two pullets a week may not seem to be much of a loss, but out of a flock of 200 it amounts to 104 birds in a year's time, or over half of the flock. This is costly and unnecessary. At the same time, poultry raisers should be interested not simply in preventing a high death rate, but in promoting maximum flock health.

MINIMUM DEATH LOSS MEANS MAXIMUM FLOCK PROFIT

If you have observed all the other rules of profitable poultry raising the death rate of your flock is the one thing that controls your income. The lower that death rate the more money you will make. Here are the ways you can see to it that your flock brings in the highest possible income:

1. Worm the birds.
2. Prevent worms from getting another start.
3. Ventilate and disinfect the house.
4. Vaccinate to prevent such diseases as colds, roup, pox, cankers, cholera and typhoid.
5. Treat intestinal inflammation.

And the most important thing of all is to do these things before it's too late.

The most successful poultry raisers are successful because they have learned that doing these things does not cost them money but makes money for them. They have learned that they pay for the treatment even when they don't buy medicine; that the money lost on dead birds and eggs that were never laid is more than enough to assure them of a higher income from their flocks by proper medication.



MAXIMUM FLOCK PROFIT Assured With Planned Health Preserving Program

TO YOU, personally, your own health means more than money, but the health of your flock means simply **MONEY**. And flock health depends on disease prevention in the form of a health-preserving program. A health-preserving program must start out, of course, from the present condition of your flock. And no matter how faithfully you may observe the rules of successful flock management there are still many possibilities for the presence of disease and parasites both at the present moment and in the future. Therefore, the recommendations made below should be followed as a permanent program.

GET RID of LICE and MITES

Lice and mites often contribute to poor health and consequently poor production. Birds get thin, weak and droopy, making it that much easier for serious diseases to get a start. Therefore, it is very important that you get rid of these parasites, which you can do by painting the roosts with Nic-Sal, using Dr. Salsbury's Louse Powder, and by saturating all cracks and crevices with Mite Death Disinfectant.

WORM YOUR FLOCK RIGHT NOW

To make sure that you will get the highest possible egg production during the coming laying season, be sure to worm your flock now if you haven't done so already. Getting rid of worms means simply better immediate health and greater resistance to other diseases during the severe winter season. For individual treatment use Dr. Salsbury's KAMALA-NICOTINE CAPS; they are hard on the worms but easy on the birds. These Caps remove the worms and at the same time strengthen the heart and other organs of the bird. It will cost you only a cent and a fraction per bird; you will get returns on your investment many times.

If you prefer the flock treatment, use Dr. Salsbury's AVI-TABS. They are a concentrated medicine, combining worm removing and tonic properties in scientifically correct proportions. They are particularly effective in removing microscopic tapeworms, which are so commonly found in paralysis.

VACCINATE against ROUP and COLDS



It will also pay you to vaccinate your birds now against roup and colds with Dr. Salsbury's MIXED BACTERIN; it is one of the most effective ways to prevent roup. Produced in our own laboratories, it comes to you fresh, potent and therefore dependable. Vaccination does not interfere with egg production; in fact, many poultry raisers have found that it increases it. Actual experience shows

that one full dose has greater immunizing effect than repeated smaller doses of ordinary bacterins. Vaccinating and worming can be done at the same time.

Use PHEN-O-SAL for BOWEL TROUBLES



● Phen-O-Sal in the drinking water, regularly, helps to prevent bowel disorders among laying flocks. Phen-O-Sal tablets consist of pure medicines that remain active throughout the intestinal tract and act on the sore and inflamed tissues. If you do not use Phen-O-Sal as a preventive, watch out for yellow or other off-colored droppings! When these symptoms appear, act at once! Put eight Phen-O-Sal tablets in every gallon of drinking water every day until the trouble stops.

Use CAM-PHO-SAL for BRONCHITIS



● Even with ideal ventilating conditions, bronchitis, colds, roup and pneumonia sometimes creep in. The best thing to do is to vaccinate your flock with Dr. Salsbury's MIXED BACTERIN as above described. If your flock is not vaccinated keep a watchful eye for sneezing, gasping for breath, discharge from the nostrils! When they show up, spray your birds with Cam-Pho-Sal—a highly concentrated combination of antiseptic and soothing oils. Its vapors relieve distressed breathing, soothe and heal the lungs. Cam-Pho-Sal is a real cough syrup for poultry.

TALK IT OVER WITH YOUR LOCAL DEALER



Your local dealer whose name appears on the back page of this magazine is an authorized Dr. Salsbury Poultry Service Station. He will be glad to help you solve your poultry management problems. See him at once.

FREE--POULTRY HEALTH MANUAL

This sixty-four page book contains twenty-four pages of photographs in natural colors that show the different organs of healthy and diseased birds. It tells you how to carry on a health program with your flock, how to recognize the various common poultry diseases and gives practical suggestions for prevention and curative treatments. See your local Salsbury dealer. If he cannot supply you with a copy, write us giving his name and address, and enclosing ten cents to cover postage and packing. It is the latest of its kind and every poultry raiser should have a copy.

DR. SALSBUURY'S LABORATORIES
CHARLES CITY, IOWA

What Do You Know About Cod Liver Oil?

1. What is Vitamin D?

Vitamin D is intangible. It cannot be seen nor can it be weighed, yet the effect of its presence in or absence from the diet may be ascertained and the relative amount determined.

The chemist would probably call it a catalyst, an agent which in itself does not enter greatly into an action but which causes other materials to combine.

It acts the same as a spark plug. It is not the driving power but it is the means by which this power is released and put to work.

2. Why is it important?

Its effect when present in the ration is similar to that produced by the ultra violet rays of direct sunlight.

Because of its great value in the prevention or cure of rickets—leg weakness—it is probably the most important factor in the diet of young chicks. Particularly is this true during the short dark days of winter when it is not possible for the flock to be out of doors in the sunlight.

Growing birds must have Vitamin D to build the strong bodies so necessary to

the layer and breeder.

Layers must have Vitamin D to turn the minerals in the ration into strong egg shells.

Again the short dark days of winter make the use of cod liver oil imperative. The birds are out of doors but a short time each day if at all, and when inside are under artificial light much of the time. They must have Vitamin D to replace the sunlight which they miss, otherwise egg production drops off and the "egg factory" becomes inefficient and costly to operate.

3. Where is Vitamin D found?

Vitamin D is found in certain fats and oils. The principal and most convenient source is steam rendered cod liver oil. It is present in greatest amount in the cod liver oil obtained

from fish taken in Western North Atlantic waters.

4. How is its presence determined?

There is no chemical test for Vitamin D nor can its presence be ascertained by physical examination.

It is only through biological tests, by adding the oil to the diet of living animals and observing the results, that the presence of Vitamin D can be determined.

5. What is its unit of measurement?

The U. S. Pharmacopoeia provides a method for testing and establishes a unit of measurement for Vitamin A. This authority does not provide a test for Vitamin D, nor does it specify any system of units for measurement of this vitamin.

Our leading authorities in vitamin research work do not attempt to express Vitamin D potency in units per gram but use a biological test, the results of which indicate the relative strength of the oil under observation.

6. What is the line test?

The line test of McCollum, Simmonds, Shipley & Park is the result of long research work and is now accepted by the leaders in this field as the standard test for Vitamin D.

In this test young albino rats are fed a Vitamin D free or rickets producing diet for 18 days. At the end of this period the rats are suffering severely from rickets and if the diet were to be continued they would soon die. One rat from among those under observation is then killed and examined. This is done in order to secure evidence of the condition of the animals.

Cod liver oil in an amount equal to one-fourth of one per cent of the ration or one part in four hundred is then added to the diet without otherwise changing the formula.

If the oil contains Vitamin D in sufficient amount the diet has then been changed from rickets producing to rickets healing.

REMEMBER—If you think it is only in this generation that youth has turned to crime, don't forget Cain and Abel.—G. E. Kirchwey, former warden of Sing-Sing.

LIGHT—The pupil is dilated at night and eventually finds daylight in it, in the same way as the soul is dilated in misfortune and eventually finds God in it.—Charles Dickens.

FOR SALE: Buff Rock cockerels and pullets from America's finest strain. Mrs. H. G. Dillon, R. 2, Staples, Minn.



Mrs. Do: See where there is a terrible epidemic of Roup in these parts. The deaths are now up in the thousands. Makes a body worry over what's apt to hap'in.

Cocky D. Do: Tut, tut. No worry for us. Heard the boss order Dr. Salsbury's Mixed Bacterin yesterday. We'll all be vaccinated tomorrow an' then let'er come.

PULLORUM TEST POPULAR

The simple and cheap stained antigen test for pullorum disease of poultry, devised by scientists of the United States Department of Agriculture, is increasing in popularity after three years of successful use by poultrymen and state authorities. In the last year more than 1,000,000 hens were tested by the new method, which requires no laboratory equipment, at a cost of about 2 cents a head. Seven new establishments received permits this year from the secretary of agriculture to manufacture the antigen, making a total of 28 plants now turning it out.

Since the new test is highly efficient in identifying hens infected with pullorum, scientists look for rapid progress in eliminating diseased stock, thus affording better eggs for hatching. Of approximately 1,000,000,000 eggs hatched in the United States each year, about 100,000,000 produce chicks infected with pullorum disease. If all breeding flocks were tested this loss could be reduced considerably.—New Jersey Poultryman.

ABORTION IN CATTLE

If you are troubled with abortion in cattle, write us for complete literature that tells how to vaccinate to prevent it.

Rubber Aprons

We have on hand a limited quantity of very high grade rubber aprons. These aprons are excellent for use while posting dead chicks, while taking care of incubators, brooders or washing cars or any place where clothing needs to be protected against water or dirt. The aprons are made of heavy rubberized fabric and will not tear, chip or peel.

Special price for this year—75c while they last.

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."

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.

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

P. 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 the 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."

GOOD NEWS TRAVELS FAST

Dear Mr. Delozier (Salsbury Dealer):

I used the Phen-O-Sal which Jack got from you and got wonderful results. My chickens were really in a bad shape as I lost seven and eight a day. They are small chickens, about three weeks old and they had bowel trouble. I had begun to think it wouldn't cure them but on the third day I saw a big change and lost no more chickens. I never saw medicine get results like it does. I used it on my first bunch just as successfully. I thought you might like to tell others of the good it did my chickens.—
EDITH ANDERSON, Blairstown, Missouri.



NEW BLEEDING NEEDLE AND LOOP

This season we offer a new instrument for drawing blood and for measuring accurately the blood used for testing. A sharp needle and an exact quantity of blood are two essentials for rapid and successful testing.

FOR THE TEST BOX A NEW WHITE PORCELAIN PLATE

For those who prefer a white porcelain plate, unruled, instead of the reflecting surface we now offer such a plate that will fit the regular Test Box. Price, 85 cents net.

Mite Death Disinfectant

For thorough disinfection, for the destruction of lice, mites and germs, to help control coccidiosis and worm egg development in the soil and in the litter there is nothing superior to Dr. Salsbury's MITE DEATH DISINFECTANT.



May be mixed with water, kerosene, distillate or light oils. Several times stronger than carbolic acid.

If You Want to Be Sure About Killing the Germs, Use—
MITE DEATH DISINFECTANT

DUST THE BIRDS FOR LICE



While handling the birds for culling, vaccinating or testing, dust a little Louse Powder into the feathers. This powder may also be used in the nests. A high quality powder with high louse killing contents.

Comes in convenient one-pound packages with sprinkler top and ready for use.

In the treatment of
Coccidiosis use

RAKOS

A new and improved
treatment

containing the proper amount of acids and astringents that are necessary to quickly rout the coccidia and render the intestines unfit for their development.

RAKOS is a concentrated liquid, contains no extra water and is very economical to use. Has given wonderful success in chronic as well as acute coccidiosis.

Buy it by the pint or gallon.



THE OLD HEN'S LAMENT

The old hen sat in the cedar tree
And says, "Nobody cares for me.
My food is what I find about,
I hunt for it 'till all fagged out.
My shelter is the starry sky.
I sit and watch the planets as they sail by.
Until my eyes grow weak and dim,
Then take a fresh grip on my limb.
And wish the morning light would come.
My owner says I'm on the bum.
He wants an egg each other day
And thinks I ought to sing and lay.
I wish he had to live out here
And live on pickings all the year.
I'll bet a copper cent, By Jingo!
He wouldn't lay an egg till spring."

The best of chickens will not lay winter eggs unless properly housed.

Apoptictiform Septicemia in Turkeys

F. Volkmar (Poultry Science, 11, 1932), No. 5

The author reports upon observations made during the years 1927 to 1929, inclusive, while connected with the North Dakota Experiment Station, of scattered outbreaks of apoptictiform septicemia which occurred every winter among chicken and turkey flocks on farms in the Sheyenne River Valley. The mortality among the affected turkey flocks was not great; at an average it was about 15 per cent. The duration of the epidemic was found to be about 1 week to 10 days. On autopsy the lesions found in turkeys seemed to be identical with those observed in chickens. Microscopical examination of the heartblood and of the visceral organs revealed the presence of *STREPTOCOCCUS CAPSULATUS GALLINARUM*.

A NEW AND SERIOUS SEPTICEMIC DISEASE OF YOUNG DUCKS WITH A DESCRIPTION OF THE CAUSATIVE ORGANISM, *PFEIFFERELLA ANATIPESTIFER* N. SP.

J. M. Hendrickson and F. K. Hilbert (Cornell Vet. 22, 1932), No. 3

Studies made of a new disease of ducks from which several thousand died on each of three ranches on Long Island are reported. The losses were chiefly in ducks from 3 to 10 weeks of age, but older ducks sometimes became infected. The old breeder ducks and ducklings younger than 3 weeks

were not affected in any of these outbreaks.

"The symptoms of the disease are depression followed by complete prostration in the course of a few hours. Nervous symptoms are usually present as exhibited by a continual rapid jerking and bobbing of the head. There is usually diarrhea with a green colored dejecta, and a watery discharge from eyes and nostrils. The course of the disease is rapid in most instances, and death usually results in acute cases from 6 to 12 hours after the appearance of the symptoms. More chronic forms of the disease are occasionally observed in which the ducks linger along for several days before death occurs. The diagnosis of the disease must rest primarily on the isolation of the causative organism. The lesions are suggestive but may be confused with those of duck cholera or other general septicemic diseases."

The lesions found on autopsy are essentially those of a septicemia with small hemorrhages on the mucous and serous membranes. The gelatinofibrinous material covering the liver and heart and mottled spleen, which were found to be fairly constant lesions, will assist in differentiating this disease from duck cholera.

A small characteristic bacillus isolated with regularity on media inoculated with heart blood, liver, spleen, kidney, and lung pulp, of which there is no previous description, and for which the name *P. anatipestifer* is proposed, is thought to be the causative organism. It is very pathogenic to White Pekin ducks when injected intravenously, but subcutaneous injection and feeding of the organisms gives negative results. The treatment of affected ducks appears to be hopeless and unwise, prevention and control by the application of rigid hygienic measures appearing to be the logical method of attack. The work also suggests the probability that a vaccine consisting of dead or attenuated cultures may be of material assistance in protecting susceptible birds.

SOME RULES FOR POULTRY FAILURES

In a recent letter A. V. Amet, Jr., gives some interesting rules with how to fail with poultry. From his service work in Missouri, Mr. Amet feels that entirely too many people are following this rule for failures. Since some people like best to hear that which they know the most about, the following rules might be interesting. So here is how to keep from being successful with your poultry.

Don't blood test and don't believe in pullorum free stock. Never vaccinate against anything. Don't worm and don't use any prevention program. Give lice, mites and ticks plenty of chance to feed and propo-

gate. Never treat the sick birds and don't treat any of the chickens at all. Use any old rooster and any old hen and hatch the chicks late. Buy the cheapest chicks you can get. Crowd the birds for all the house will stand. Never use lights or commercial feeds. Let the nests get dirty and have plenty of foul air, dampness and dirt in the house.

These are some of Amet's rules for failures, but, Mr. Amet, who wants to fail with their poultry? If you don't want to fail reverse these rules and do just the opposite of what you are told.

In the Control of Pick-outs

USE

Dr. Salsbury's

PAINT-O-SAL



It colors the light so that the chicken will not recognize fleshy and bloody objects. Paint the glass or glass substitutes of all the openings. One coat of Paint-O-Sal will do the job. It is the easiest and

cheapest assurance against cannibalism.

Paint-O-Sal comes in one-half pint, pint and quart cans at popular prices.

IT WILL PAY YOU TO WORM your HOGS

WITH

Dr. Salsbury's

HOG WORM OIL

Wormy hogs can never make you any money.

Worm your pigs now with Dr. Salsbury's Hog Worm Oil. Can be used as an individual dose or as a treatment in the slop. Contains oil of chenopodium, recognized as the best worm remover for hogs. Also contains a bland base with medicines added to pep up the pigs while the worm medicine is acting. Complete directions with every can. Quart size—\$1.80; half gallon size \$3.25; gallon size \$6.00. See our local dealer.

Comments on the New Poultry Health Manual

"Manual is certainly fine and has already proved its value to us. The colored plates are of great assistance."—Trumbull Coal and Feed Co., Niles, Ohio.

"Your new Manual is a PEACH."—Carl Rogers, Avoca, Iowa.

"Your book helped me diagnose chicken pox when the failed, treating it for roup, very few pocks. Your vaccine after using in two weeks the trouble had disappeared."—Mrs. Ira J. Schafer, Brighton, Iowa.

"Received your Poultry Health Manual and thanks a lot. This sort of book is sure worth having. I wouldn't do without it now."—Mrs. Will Parizek, Iowa City, Iowa, R. 5.

"I have your favor of May 16th and copy of your Manual on Poultry Health. You certainly have collected here a fine group of illustrations and understandable descriptive material on the various ailments of the poultry flock. The possession of a copy of this booklet will enable the farmer to possess a healthy flock of birds

NOTE: These Manuals are still obtainable at 10 cents each for postage and packing, or see your dealer.

TAPEWORMS—SHEEP

I am sending samples of worms taken from two lambs that died. There are many worms in the intestines. Some of my lambs and some old ewes are coughing badly. Does this type of worm cause the sheep to cough?

What treatment should I use for these sheep? I have ordered hog worm oil through your local agent, Mr. Will Mound. Will that be effective for this type of worm?

Any information you can give me will be greatly appreciated.—J. B. Randolph.

Answer: The worms you sent us are the common tapeworms as found in sheep. In some sections of the country these tapeworms are very common in sheep.

The only thing that will remove tapeworms is Kamala. I would suggest that you give the Kamala Caps the same as recommended for poultry. For the average size fairly well grown lamb, use about 3 Kamala Caps per animal. Smaller lambs may have 2 Kamala Caps. Be sure that they go well back on the tongue and that they will not go into the windpipe.

The Hog Worm Oil is very good

and to realize far more profit therefrom."—Michigan Farmer, Burt Wer-muth, Detroit, Mich.

"Congratulations and more congratulations to you and your editorial staff for having turned out so fine a piece of instructive poultry literature. The striking and most unusual color plates and comprehensive text matter far outclips anything of its kind previously attempted along education poultry disease lines. May you reap your well earned reward."—J. H. Fischer, Paradise, Pa.

"Thanks very much for the Poultry Health Manual. It is the best of its kind that I have ever seen."—Roy L. Roberts, 1800 West 9th St., Lawrence, Kans.

"We received our copy of the new Manual today, and must say it is the most complete piece of work we have ever seen. The illustrations are all so clear that anyone who could not take this and go out into the field and diagnose any case, simply cannot read. We are enclosing our order for more Manuals."—Ravenscroft Hatchery, Kingman, Kans.

for stomach worms and other round worms but will not have as much effect on the tapeworms as the Kamala. Tapeworms in themselves do not cause a cough. There may be a lung worm present or there may be some areas of pneumonia in these sheep that cause this coughing. For the cough condition use one teaspoonful of Cam-Pho-Sal diluted in a cup of water for each sheep as a daily treatment for three or four days. Small amounts of the Cam-Pho-Sal solution may be put directly into the windpipe in case you are sure that there are lung worms present.

ANOTHER WAY TO USE NIC-SAL

A new way to use Dr. Salsbury's NIC-SAL has recently been reported by Lloyd Kifer of Kifer's Leghorn Farm of Bolivar, Mo. This well-known Nicotine preparation is widely used for painting the roosts to kill lice, for spraying vegetation to kill sap-sucking insects. Here is how Mr. Kifer uses it.

While culling or handling poultry for other purposes, Mr. Kifer takes an ordinary oil can, fills it with Nic-Sal and puts a drop or two of the fluid under the vent, near each wing and on the head of the bird. In some of the more difficult cases of louse in-

festation, this method has been 100 per cent successful. It costs less and doesn't take very much extra trouble to do it and is sure to get all the lice.

Have some Nic-Sal handy for de-lousing the next time you handle your flock.



Bookworms will soon gather at Charles City for the 30 day course on Poultry Diseases and management. Many a bird will be surprised at the knowledge the boss will have when he gets back.

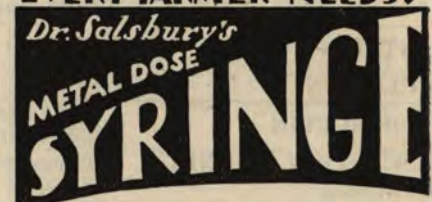


A highly medicated ointment that will get results for local application to swollen quarters (caked bags) in milk cows. Must not be compared with the cheap ointments which contain very little medicine, often found on the market. Insist upon Dr. Salsbury's Garget Ointment. Keep a box on hand and use it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

1 lb. box.....\$1.00 5 lb. box.....\$4.00
See our local dealer or write us.



EVERY FARMER NEEDS!



IT pays to have a good quality syringe for giving medicine to hogs, horses, cattle, sheep or calves. Dr. Salsbury's two ounce metal dose syringe is the ideal. Only \$1.20 each. Get one from our local dealer.

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	1/2 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	1/2 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

Some Drugs and Their Uses

In the human family, probably nothing is feared as greatly as pneumonia. Diseases of the lungs and breathing organs are the most common causes of lay-offs in industrial plants. In poultry the condition is somewhat different. Pneumonia is not particularly feared in the growing and mature birds but it is quite a problem in the young chick. Like the humans, diseases of the nose and throat are the most common causes for lay-offs in poultry.

The various forms of colds and roup during the fall and winter cause more chickens to stop laying and to eventually die than all others combined.

What are some of the classical medicines used in treating these common and persistent diseases of the breathing department?

As we look over the list of drugs we find that camphor is one drug widely used. Text books on medicine list some of the uses of camphor as follows: In conditions of collapse, heart weakness, circulatory disturbances, pneumonia, coughs. Another drug closely connected with any story on diseases of the respiratory organs is Oil of Eucalyptus. Text books on medicine give the uses of this medicine as follows: The various fevers, bronchitis, check fermentation, for inhaling in asthma, catarrh, gangrene of the lungs, diphtheria and influenza. That is the recognized function and use of Oil of Eucalyptus.

Another drug always good in respiratory troubles is Guaiacol. This drug has the one outstanding use, that of loosening phlegm in bronchitis. Beechwood Creosote is closely linked with Guaiacol and has a strong antiseptic action. A popular and very effective drug when correctly used is Oil of Pine. When properly made it is of high antiseptic value and its classical use is as an inhalant in bronchial infections.

All of these outstanding medicines for bronchial conditions are properly mixed and combined into one and sold under the name of CAM-PHO-SAL which contains no filler or heavy base. The customer adds his own water for dilution. The dollar size Cam-Pho-Sal makes 2½ quarts. Dollar-and-half size makes 5 quarts and the two-and-one-half dollar size makes 2½ gallons of medicated spray.

The inexpensiveness of Cam-Pho-Sal as a medicine for the various types of respiratory troubles in old and young is well illustrated by the following example:

A certain hatchery man went to the

State College and got a formula containing essentially these drugs and had it filled at the drug store. The prescription called for two ounces and when he got his bottle of two ounces it cost him 75c. After he got home he checked the formula with the ingredients of Cam-Pho-Sal and he found that they were practically the same. He studied the price and found that the drug store prescription price was 75c for two ounces while he could obtain four ounces of Cam-Pho-Sal for \$1.00, eight ounces for \$1.50 and 16 ounces for \$2.50. This comparison shows the extreme economy of Cam-Pho-Sal.

To close the argument, this hatcheryman made the statement that he got no better results and the medicine that he got from the drug store went no further than the cheaper bottle of Cam-Pho-Sal.

Cam-Pho-Sal may be used as a spray. The inhalant vapors are soothing, healing and antiseptic to the respiratory tract. Where we sometimes fail to get results it is because we turn the chickens loose in a big, open barn and pump in a few whiffs of Cam-Pho-Sal thinking that that is going to cure them. Medicine of that kind cannot be given on the run. The way to get results in treating respiratory troubles is to confine the birds to as small a space as possible, shut down the drafts and then vaporize the Cam-Pho-Sal in a fine mist surely but slowly saturating the system by continued exposure. Fifteen or twenty minutes exposure without ventilation is not too long. Sometimes a fine spray gives the best results but other times hot steam vapors, fumes from pouring Cam-Pho-Sal on hot stoves or hot bricks also give good results. In the more persistent cases all of these methods must be tried out before the right one is found.

Cam-Pho-Sal is also a good general antiseptic. It may be used anywhere that antiseptic solutions are desired. For cleansing the nasal passages, washing out pus secretions it has no equal. For treating old sores, application to chicken pox scabs, cankers, sores in the ears, vent gleet, bumble foot and all other infected conditions, proper strength of Cam-Pho-Sal will give results. Cam-Pho-Sal may also be put in the mash or diluted with milk or water and given by mouth. Its antiseptic action, its ability to be carried to the lungs by the blood stream makes this a most excellent medicine for that purpose.

WINTER MANAGEMENT OF POULTRY

(Continued from page 4)

the morning before the birds have eaten other feed.

Improvement of the Farm Flock

November and December is the time to select the breeders. Birds pushed for high production, especially by lights, will not be the best to furnish hatching eggs because of the tendency to lowered vitality due to excessive laying. This weakness may be passed on to the chick through the egg.

In selecting breeding birds the male should be from a high producing hen and this high production should extend back for many generations. It has definitely been shown that high production is inherited and passed from the hen to her son and by the son to his daughters. In selecting the hens she must show equal capabilities as the male since her sons may be selected for breeders another year. Select those hens that, as pullets, commenced to lay early and molted late in the fall. The early developing pullets are the high producers and the same applies to the male as a breeder. Breeders should not be pushed for production but allowed normal day light and take a slower laying course. If cockerels are used, or, in case pullets must be used as breeders, they should be early hatched—not later than April, if eggs are to be saved for hatching by February. The breeders should be pure bred and of fairly good type and color. Good development of head and neck as well as body is essential. They should possess good capacity for laying as evidenced by good width and depth of body and proper length. It is best to cull the breeding flock before blood testing. All breeders, both males and females, should be blood tested. This can be done accurately at the plant.

PROGRESS—This I resolved on—to run, when I can; to go, when I cannot run; and to creep when I cannot go.—John Bunyan.

What Kind of Chickens Do You Raise?

To get the most out of your breed you should learn everything possible about them.

Rhode Island Red Journal

is a paper devoted entirely to Rhode Island Reds. Gives the information you want. It is the Red man's paper. 25c one year; 5 years \$1.00.

The Leghorn World

is devoted entirely to Leghorns. Giving you information on Leghorns and keeping you in touch with those who raise Leghorns. 25c one year; 5 years \$1.00.

Plymouth Rock Monthly

for all people who are interested in the various varieties of Plymouth Rocks. Your own breed paper. 25c one year; 5 years \$1.00.

These breed papers give you the opportunity to learn more about your own breed and offers you an exceptional place to advertise your own stock, baby chicks or eggs for hatching.

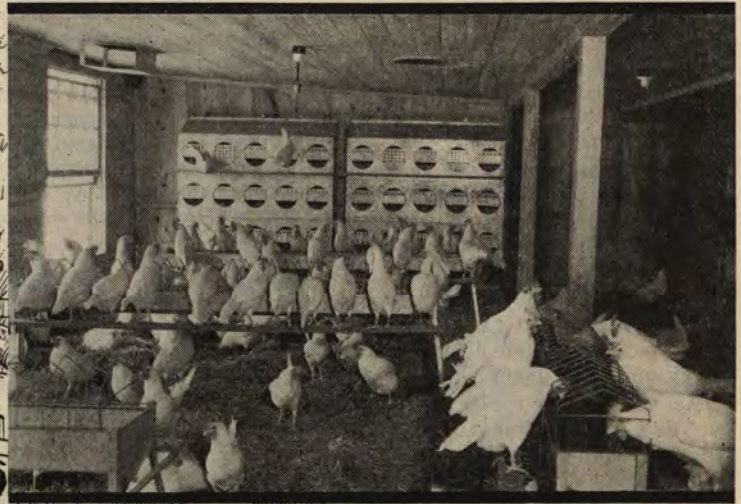
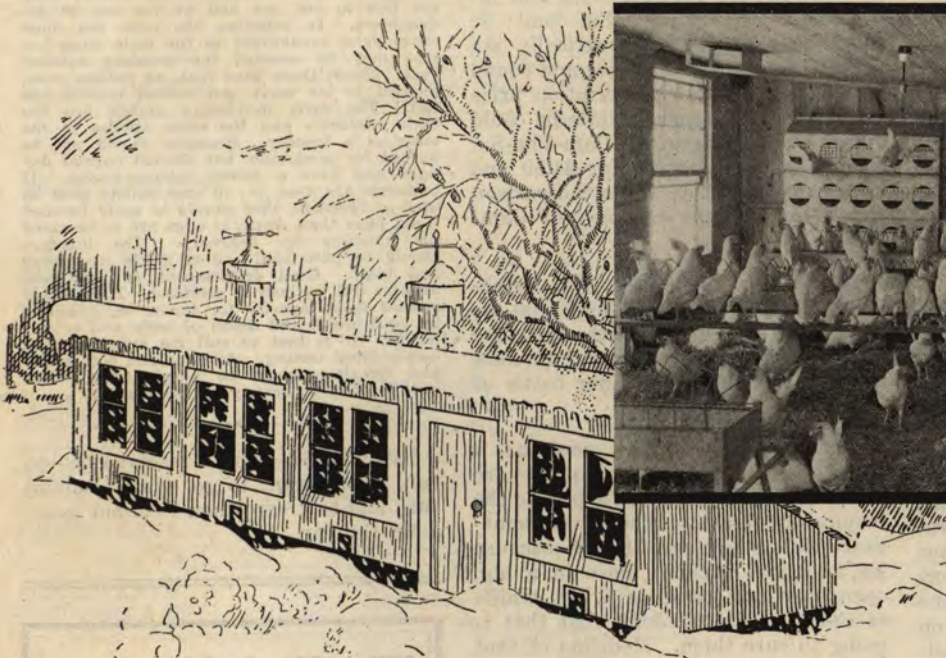
WRITE THAT LETTER NOW!
SAMPLE ON REQUEST.

WAVERLY PUBLISHING CO.

BOX J

WAVERLY, IOWA

for



YOUR BIRDS WILL PUT ON an Egg Laying Contest of Their Own

If you follow this Mid-Winter Management Program

- 1—Provide adequate, comfortable housing.
- 2—Use a ventilating system or equipment that really ventilates.
- 3—Prevent disease through Sanitation, Vaccination and Drinking Water Medication.
- 4—Worm your flock right now.
- 5—Practice worm prevention and control constantly.
- 6—Provide cod liver oil and tonics to maintain high vitality.
- 7—Keep minerals before your flock.
- 8—Provide plenty of water.
- 9—Provide good laying feeds, all they can eat, and in the best combination for big production.
- 10—Make free use of our services and advice.

Let us help you put this program to work. Next time you are in town come in and talk it over with us.

D. Salsbury's
**POULTRY HEALTH
SERVICE STATION**

This sign is an emblem of
Courtesy, Promptness and
Dependability. Displayed by
Authorized Salsbury Dealers.