

NEW COTTON PLAGUE

Pink Boll Worm Discovered in Coahuila, Mexico.

GREATEST MENACE TO STAPLE

Insect in Cotton-Producing Countries Has Shown Capacity for Damage Exceeding That of Untractable Boll Weevil.

(Prepared by the United States Department of Agriculture.)

The pink boll worm, the presence of which in the state of Coahuila, Mexico, 200 miles south of the Texas border, has recently been determined by specialists of the U. S. department of agriculture, is a comparatively new cotton pest, having spread from India to Egypt about eight years ago.

It has already spread to practically all cotton-producing countries in the world except the United States.

And its establishment in Mexico presents one of the greatest menaces which has come to American cotton culture in its history. This insect in India, Egypt, Hawaii and other foreign cotton-producing countries, has shown a capacity for damage exceeding that of the boll weevil.

Recognizing the possibility of introducing the pest into this country in cotton seed, seed cotton, and cottonseed hulls, the United States has prohibited for several years the importation of these products from all cotton-producing territory except six states of northern Mexico. For the same reason cotton lint from such countries has been admitted into the United States only at certain northern ports and after fumigation. New amendments to quarantine regulations, which became

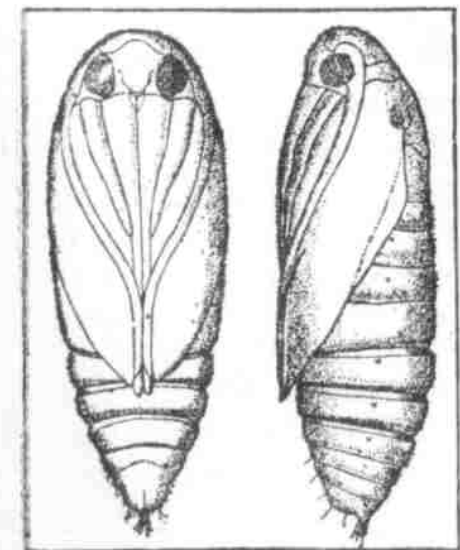


Pink Boll Worm—Moth or Adult, Dorsal View—Much Enlarged. (Original.)

effective November 4, extended the prohibition against importing seeds, seed cotton, and hulls to the previously excepted Mexican territory, with the exception of that portion of the Imperial valley south of the Mexico-California line. This area is continuous with the Imperial valley of California, is devoted to the culture of the same kind of cotton, and is largely settled by Americans. In view of the unity of cotton culture in the valley and the entire separation of the Mexican portions of the area from continental Mexico by the Gulf of California and wide expanses of desert country, it was not considered necessary to change the existing regulations there. The growers of this valley on both sides of the international line, however, have been warned of the danger and it is expected naturally will refrain from any traffic, if such exists, in cotton or cotton seed and seed products from those parts of Mexico against which the quarantine has been promulgated.

Movement of Cotton Seed.

As to continental Mexico, however, involving the five states of Nuevo Leon, Coahuila, Durango, Chihuahua and Tamaulipas, the discovery of the pink boll worm in the Laguna district

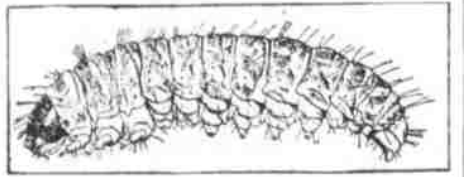


Pink Boll Worm—Full-Grown Larva, Lateral View—Much Enlarged. (Original.)

makes it absolutely imperative that further movement of cotton seed and hulls be stopped. This has been effected by the order issued by the secretary of agriculture, revoking the amendments to the cotton seed quarantine which permitted such movement of seed from these states. The control of the movement of lint cotton from these states of northern Mexico has

been effected by a revision of quarantine regulations which will necessitate the transportation by water route of Mexican cotton intended for the United States to specific northern ports of entry where disinfection and compliance with the other features of the regulations can be made.

The Laguna district, where the insect has been discovered, represents one of the most important cotton-producing areas in Mexico. It is an elevated plateau region near San Pedro in central northern Mexico. Cotton culture is there more intensively prosecuted than anywhere else in Mexico, and it is possible that this very interest in cotton culture has led to the introduction of the pink boll worm in the effort to get improved cotton varieties from Egypt or other foreign sources. The discovery that the worm exists in Mexico resulted from the sending by a planter of the Laguna district to the federal horticultural board for determination some cotton bolls from his plantation which he supposed to be infested with the common boll weevil. An examination of this material showed that the infesting in-



Pink Boll Worm—Pupa, Ventral and Lateral Views—Much Enlarged. (Original.)

sect is the dreaded pink boll worm of Egypt and India.

The pink boll worm hibernates in the larval state in the seed, and in this way is readily carried to any quarter of the world by seed exportation. The adult insect is a small moth. The worm attacks the immature cotton bolls, and, in severe cases, reduces the yield 50 per cent. In addition to this, the amount of oil obtained from the seed of infested cotton is lessened from 15 to 20 per cent.

The department of agriculture urges that all cotton interests give assistance to the federal authorities in preventing any movement in violation of the new amendments of cotton seed, cottonseed hulls, seed cotton or cotton lint from Mexico into the United States.

ROTATION AND MANURE BEST

To Maintain Economical Productiveness of Land It Should Both Be Manured and Rotated.

(By M. F. MILLER, Missouri College of Agriculture.)

In one of the experiments at the Missouri agricultural experiment station corn has been grown for 25 years on the same plot of ground with an application of manure averaging about seven tons annually. In comparison with this, corn has been grown in various rotations without manure. A summary of the yields for the last six years on these plots shows that the average yield of corn on the rotated plots is greater than the average yield of corn which has been grown continuously with manure. In other words rotation has been somewhat better than heavy manuring in this experiment. The last six years of the quarter century have been chosen for comparison since one of the rotations is a six-year rotation and since this number of years is sufficient to largely overcome seasonal variations.

It should not be understood from these results that rotation is sufficient to maintain the yield of corn. As a matter of fact there are other plots in this same experiment which have been both rotated and manured. The average yields of these plots is very materially above rotation alone. The important points are, that rotation is more important than fairly heavy manuring in the long run, but that it is not all-sufficient; that in order to maintain land in productivity economically, it should be both rotated and manured, while in many cases commercial fertilizing materials applied in addition to the manure will give still further return.

LAYING PLANS FOR ORCHARD

Select Site and Get in Touch With Experiment Station as to Best Varieties to Plant.

We hope you're laying plans now to have a "sure-enough" orchard hereafter. Why not select your orchard site, get in touch with your state experiment station in regard to the best varieties, determine how many of each you will need, order at the proper time, and then by the right kind of attention insure plenty of healthful, wholesome fruit hereafter?

And while we're talking of tree-planting, one of the finest investments you can possibly make will be to buy some paper-shell pecan trees. In nuts yielded, as a shade tree and as an ornament, the pecan is one of the very finest of trees. You, your children and your grandchildren will bless the day you plant them.—Progressive Farmer.

WHITE GRUBS ARE NUISANCE

When Pests Once Get Into Field There Is No Way of Protecting Crop—Rotation Is Best.

When white grubs are once in the field there is no way of protecting the crop. There are, however, methods that will greatly reduce the damage in succeeding years. Crop rotation and fall plowing are best.

Hogs and chickens like the grubs and quickly reduce the number of fields in which they are kept.

DAIRY

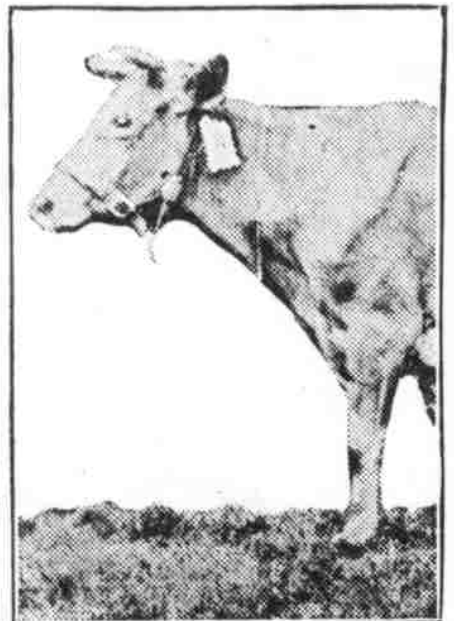


COMPOSITION OF SKIM MILK

Guernsey Milk, Like That of Jersey, Has High Percentage of Protein and Sugar.

Heretofore the difference between the percentage of butterfat in Jersey cows' milk and that of Holstein's has been often emphasized. Only recently has the fact been known that there is considerable difference in protein.

Chemical analyses made by A. E. Perkins, dairy chemist at the Ohio experiment station, show that milk from Jersey cows has a higher percentage of protein and sugar than Holstein milk. Guernsey milk is quite similar



English Prize Guernsey.

to that of the Jersey, while Ayrshire milk is intermediate between that of these two breeds and the Holstein.

These analyses indicate that the percentage of protein in milk increases with the fat content, but not in proportion. Skim milk from Holstein milk having 3.3 per cent fat contained 3.5 per cent protein, while Jersey milk tested 4.7 per cent fat and 4.1 per cent protein. The variation in the sugar content showed a similar tendency. Thus the fat content of milk offers a practical basis to compute the composition of skim milk derived from it.

RIGHT SPEED FOR SEPARATOR

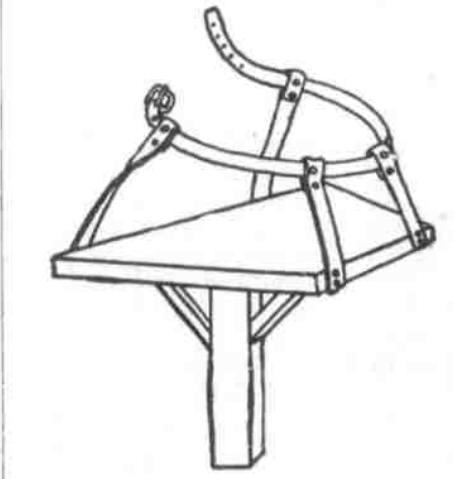
Often Nearly One-Half of Fat May Be Found in Skim Milk When Machine Is Run Slowly.

As much as 50 per cent variation in the richness of cream may be obtained by variation in speed of operating the separator. If normal speed is 55 turns of the crank per minute, 75 turns will bring rich cream and 25 turns will bring thin cream. A great deal of fat is lost in the skim milk when low speed is used. Sometimes nearly one-half of the fat may be found in the skim milk when the separator has been run too slowly. This demonstrates the fact that there is only one speed for economical operation of the separator, and that is the right speed. This speed is indicated on the crank handle.

MILK STOOL IS CONVENIENT

Device Buckled Around Waist of Milker by Means of Straps Is Always Ready for Use.

A very handy stool for use in milking the cows in yard or field may be made as follows: It is merely a one-legged stool to which are attached four



A Convenient Stool.

straps connected with a broad strap that is buckled around the waist. The stool is quickly fastened to the milker and is always in a position so one can sit down anywhere. Such a stool with a short leg is also useful in the garden.

CAUSE INDIGESTION IN CALF

Found From Experience That Slight Variation in Temperature Will Bring on Disorder.

Under natural conditions, milk consumed by the young calf has a temperature of approximately 100 degrees. It has been found by experience that a slight variation from this temperature may cause indigestion. Especially is this true with calves under two months of age.

BEST PAYING RATIIONS

Interesting Experiment Conducted by Ohio Station.

Pullets Producing Largest Number of Eggs Were Furnished Most Expensive Feed—Careful Accounts Are Important.

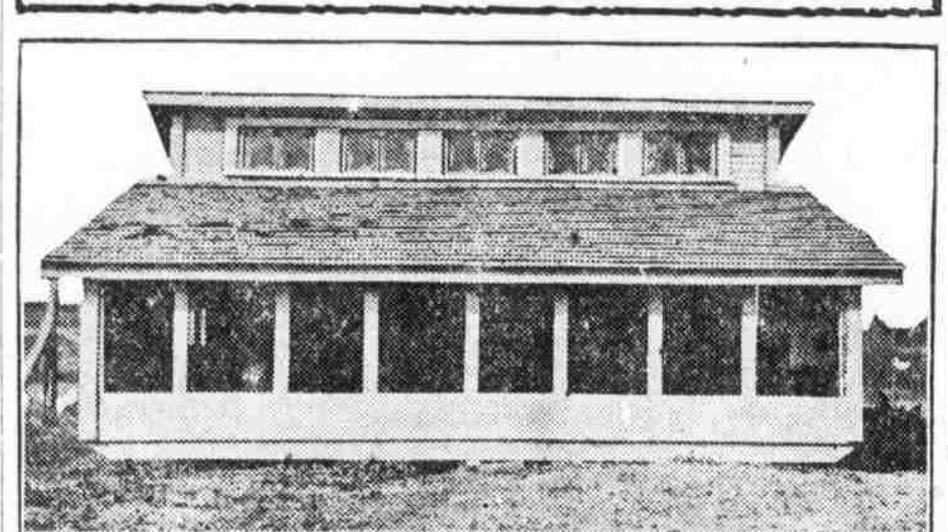
The number of eggs laid during the feeding of a ration it not always an index to the value of the ration. The best-paying ration should be sought. That is a ration which will give the most profit on the number of eggs laid. An experiment conducted by the Ohio station illustrates this point:

In the experiment, three lots of 25 pullets each, of Single Comb White Leghorns, were used. These pullets were housed in half of a colony house 10 by 12 feet in size, this space being allotted to each group. The hens were also confined to the houses from April 1 to June 7, in order to permit the grass in the lots to get some growth. When the snow was on the ground, the hens were confined to the houses. At

other times, each lot had access to a yard.

Lot 1 received a ration of shelled corn, ground corn, eight parts, and meat scraps, five parts. Lot 2 received a ration of shelled corn, ground corn, seven parts; bran, three parts, and meat scraps, five parts. Lot 3 had shelled corn, one part, and wheat, four parts, with one part of oats, and a mash composed of ground corn, three parts; bran, four parts; middlings, four parts; oil meal, one part, and meat scraps, two parts. Each lot had access to grit, oyster shell and charcoal. Lot 1 produced 185.9 eggs, Lot 2, 189.8, and Lot 3, 201.6 eggs per hen, at a cost of 8.73, 8.54 and 10.96 cents per dozen, respectively. The profit from Lot 1 was \$2.09; from Lot 2, \$2.15, and from Lot 3, \$1.98 for each hen in the respective groups. The ration for Lot 3 not only cost more but was more trouble to prepare. If we looked at the number of eggs only, it might seem that 201.6 eggs were far better than 185.9 or 189.8, but the profit is what we are after—the most money with the least trouble. The farmer needs especially to look to his profits this year of high-priced grain. Careful accounts are the only means of determining the cost of eggs per dozen, and the best-paying ration.

IDEAL CHICKEN HOUSE FOR FARM FLOCK



POULTRY HOUSE FINDS FAVOR IN KANSAS.

There are as many types of chicken houses as there are of poultry raisers, and but few of these houses approach the ideal, asserts N. L. Harris, superintendent of the poultry plant, Kansas Agricultural college.

"The ideal chicken house should be at least 20 feet long and 18 feet wide," says Mr. Harris. "The height should be such as will be convenient to the operator—about nine feet in front and not less than four feet at the back.

"With a house of these dimensions, there will be no frozen combs, even in severe winter weather. Frozen combs usually result from keeping poultry in small houses where good ventilation is a difficult matter.

"There is no question that cement is the best floor for poultry houses,

since such a floor is sanitary, vermin proof, and easily cleaned."

The manner of lighting and ventilating a poultry house is always important, in the opinion of Mr. Harris. Too much glass in a poultry house raises the temperature in the day and permits rapid radiation at night. The resulting wide variation of day and night temperatures is always injurious to the health of the fowls.

Probably the best means of providing adequate light and ventilation is to have two windows in the south side of the building with a cloth curtain between. During stormy days, while the curtain is closed, the windows will provide sufficient light and the curtains will allow sufficient ventilation without permitting drafts.

DEVELOP OOCYTES FOR EGGS

No Hen Lives Long Enough to Produce More Than Small Percentage of Undeveloped Eggs.

Automatically every normal hen would appear to be fitted to become a good layer. Certain it is that no hen lives long enough, or remains in condition long enough, to develop all, or more than a small percentage of the undeveloped eggs on her ovary. In counts made at Maine experiment station from 914 to 3,905 oocytes (undeveloped eggs) were found in the ovaries of some 15 hens examined, and only those visible to the unaided eye were counted. Three hens showed better than 1,000 oocytes each five showed better than 1,500 undeveloped eggs each; five better than 2,000 each; and one yielded a count of 3,905 undeveloped eggs.

In the investigations it was shown that the number of oocytes visible on the ovary bore no definite or constant relation to the actually realized egg production of the specimen.

Apparently actual egg production depends upon many things besides hereditary characteristics and anatomical differences. It is easy to understand that influences which affect the individual specimen may play a very large part in producing conditions favorable to maturing the undeveloped eggs of the ovary and the actual laying of same. Potentially, from an anatomical standpoint, almost every hen is a thousand-egger or better.

It remains for us to develop and obtain the eggs. Of course, many oocytes never develop and mature. Hens which have made a record of 1,000 eggs in their lifetime are still rare birds.

FEEDING CORN TO CHICKENS

Wasteful Practice Where Fowls Are Confined and Not Given Greens, Charcoal and Lime.

Feeding corn to hens of no particular breed shut up in small quarters will not get enough eggs to pay. But pure-bred stock, bred by a breeder who knows his business, if given a chance, will make good use of good feed.

Chickens need variety. Feed them a variety of grains, greens, charcoal, lime, plenty of grit, and if it is necessary to confine them, feed fresh meat twice a week.

If in houses, keep them plenty warm and dry. Do not forget to keep them well supplied with water.

PROPER CARE OF COCKERELS

Young Fowls Will Need Plenty of Right Kind of Food and Shelter for Best Development.

Those who have good cockerels needed for breeding birds in their own flocks will see to it that they are properly cared for. The young cockerels will need plenty of the right kind of feed and the proper shelter and protection so they may develop into good birds.

The mistake is sometimes made of not keeping enough cockerels for the number of hens needed on the farm. As a result of this, farm flocks sometimes produce too small a per cent of fertile eggs. This means considerable loss for the infertile egg unused in incubation is almost if not a complete loss.

It is not easy to tell the kind of birds young cockerels will make, at least while they are quite young. It is necessary generally to keep the birds till their type, plumage and general individuality can be ascertained. The best is none too good and no one should afford to keep poor cockerels. Should none of your flock be suitable, then dispose of all and get good cockerels to breed up your flock. This will be economical in the end.

MILK IN FEEDING CHICKENS

Will Greatly Increase Egg Production—Carbohydrates Do Not Offset Necessity of Protein.

The use of milk in feeding chickens will greatly increase egg production. The hen never lays an egg until all the ingredients necessary for the complete development of a chick are present.

Since the egg contains protein as well as carbohydrates, any amount of carbohydrates fed in the form of grain will not offset the necessity of protein. Milk given to the birds, either as a drink or in the form of wet mash, will greatly increase egg production.

DUST BATHS ARE NECESSARY

Laying Hens Are Enabled to Rid Themselves of Vermin and Remove Dirt and Scales.

Laying hens must have their dust bath if they are to lay the maximum number of eggs during the winter. It is a necessary luxury for them.

By its use they are enabled to rid themselves of mites and to remove all scales and dirt from the skin.

Thousands Tell It

Why daily along with backache and kidney or bladder troubles? Thousands tell you how to find relief. Here's a case to guide you. And it's only one of thousands. Forty thousand Americans are publicly praising Doan's Kidney Pills. Surely it is worth the while of anyone who has a bad back, who feels tired, nervous and run-down, who endures distressing urinary disorders, to give Doan's Kidney Pills a trial.

A North Carolina Case

Mrs. W. A. Morley, "Every Picture Tells a Story" 68 Penland Ave., Asheville, N. C., says: "I was in bad shape with kidney trouble. I had dizzy headaches a lot and with nervous spells. I had a and my kidneys didn't act as they should. I also suffered severely from backache and could hardly straighten after stooping. When I saw Doan's Kidney Pills advertised, I got some and they rid me of all the trouble."

Get Doan's at Any Store, 50c a Box
DOAN'S KIDNEY PILLS
FOSTER-MILBURN CO., BUFFALO, N. Y.

A man may be the architect of his own fortune, but he can't induce the sun to shine in every room.

Dr. Perry's "Dead Shot" is not a "home-remedy" or "sympom" but a real old-fashioned dose of medicine which cleans out Worms or Tapeworm with a single dose. Adv.

Going to Extremes.

Blondine—Gerty Giddig certainly has the shopping habit developed to a science.

Brunetta—Likes it, you mean? "I mean that she always insists on going where she can get the most for her money."

"That's natural, isn't it?" "In most cases, yes, but there are exceptions."

"I'd like to know what they are?" "Well, for instance, the other day I found her in the arcade trying to ascertain which machine would give her the most for her money when she weighed herself on the scales."—Youngstown Telegram.

To Drive Out Malaria

And Build Up The System
Take the Old Standard GROVE'S TASTELESS CHILL TONIC. You know what you are taking, as the formula is printed on every label, showing it is Quinine and Iron in a tasteless form. The Quinine drives out malaria, the Iron builds up the system. 50 cents.

Jack's Substitute.

Jack attained his fifth birthday last summer and in the fall attended school for the first time, wearing kilt skirts. Some of the larger pupils plagued him about wearing dresses, and it was not long before his pleadings for a real boy's suit were granted. He was very proud indeed when he went to school a few days later arrayed in his knickerbockers. One of the girls wrote him a note saying he looked like a little man. That night he was telling his mother about it.

"Mother," said he, "Frances Wright wrote me a note telling me I looked like a little man, and I wrote her one and told her she looked like a daisy, only I couldn't spell daisy, so I spelled cat."

How Gallieni Cut Infant Mortality.

When the recently deceased General Gallieni became governor general of Madagascar in the early nineties, he was appalled at the unsanitary conditions and the high death rate. Though a soldier and not a physician, he set about to remedy these conditions.

He obtained the happiest results in his campaign against infant mortality. He had native women trained as midwives and he established and popularized maternity hospitals. He regulated marriages and restricted divorce. He exempted the fathers of five children from taxation and he taxed bachelors instead.

These and many other works produced such a change that the French Academy of Medicine awarded him a gold medal, a most exceptional distinction for one who was not a doctor.

Like the Dodo.

According to the last census the turkey population of the country has fallen off greatly in recent years. Our statistician records the sad prediction that the popular bird will before many years be "as scarce as the dodo."

Instead of Worrying

about the high cost of living, just buy a package of

Grape-Nuts

—still sold at the same fair price.

Enjoy a morning dish of this delicious food, and smile over the fact that you've had a good breakfast and

Saved Money

Isn't that a fair start for any day?