

# How to Monitor PPLO-Free Programs

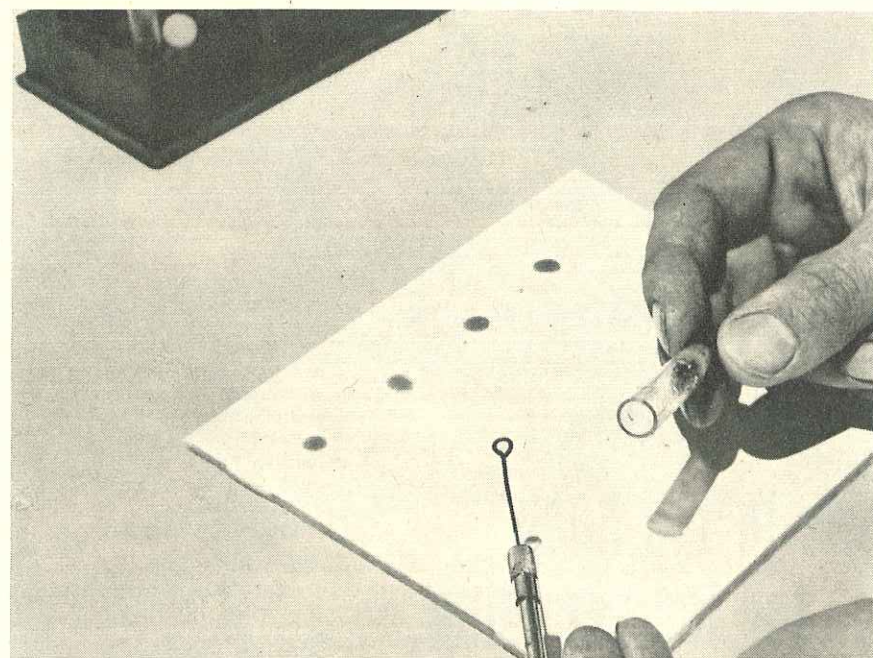
**SUMMARY:** This is the third in a series of articles explaining the PPLO-free concept in broiler production. To maintain a PPLO-free status, broilermen must establish a monitoring system which uses the 2 principal testing techniques. The rapid serum agglutination test can be performed on breeder hens at the supply farm. In the hatchery, the embryo lesion test is used to detect a PPLO break by performing a post-mortem on dead-in-shell chicks.

• After a manager of a broiler enterprise decides to go PPLO-free and implements the needed management changes for the program, he needs a system of tests to check whether or not the birds remain PPLO-free. The key to a continued program is a sound monitoring procedure which uses 2 basic test techniques for the supply farms and hatcheries.

**Agglutination Test.** The breeder farm is monitored by use

of the rapid serum agglutination test. Experienced poultrymen and veterinarians recommend test periods for parent breeder hens at 12 weeks and again at 20 weeks of age.

Ten per cent of the birds or a minimum of 100 breeders, selected at random, should be included in each test. Careful coding of blood samples is essential to insure that positive reactors can be traced accurately to the source. The procedures and equipment needed



THE ANTIGEN is spotted on the tile and samples of blood sera removed from the tubes by a wire loop.

to conduct the agglutination test include:

1. Sterilize equipment which includes a rack for blood samples, a stained antigen and dispenser, a nichrome wire loop 0.02 ml. in size, and a white glazed tile.

2. Use a special dropper to spot 0.04 ml. of antigen on the tile.

3. Insert the nichrome wire loop into the serum to remove 0.02 ml. of serum sample in the loop.

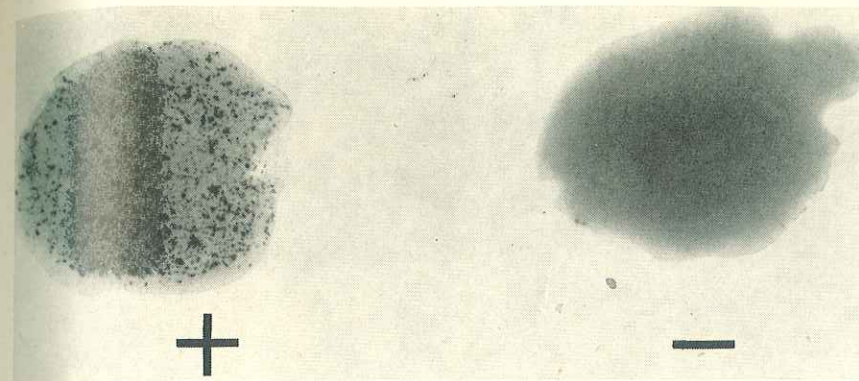
4. Disperse the serum in the antigen spot by rotating the loop. Repeat the process with each sample. Clean and dry the nichrome loop at each operation by using clean water or a saline solution.

5. Blend the substances by tilting the tile from side to side for one to two minutes.

**Reaction.** A positive reaction from the test is shown by the distinct agglutination (see photo). Agglutination begins within one-half minute after the substances are dispersed. The reactions are normally complete within two minutes. If a reaction begins after three minutes, it should be ignored and that bird considered negative.

The agglutination test should be conducted in good light conditions and the tile should be kept warm (60° to 80°F. or 15° to 27°C.). Before use, the antigen should be stored in a refrigerator. The antigen should not be allowed to freeze. It should have enough time to warm to room temperature before use in a test.

The serum sample should be tested as soon as possible after securing from the birds. Although the samples can be stored for later tests, they should never be allowed to freeze. The breeder's laboratory or a qualified diagnostic laboratory can recheck the



A CLEAR comparison of positive and negative status is indicated by the rapid serum agglutination test.

positive reactors, if any, to eliminate the chance for "false" positives. Reason: Interpretation of the test is critical.

The rapid serum agglutination test can also be used by the hatchery to check the status of the supply flock. The test can be conducted when the supply flock is 30 and 42 weeks of age. The hatchery will select at random 25 one-day-old chicks from the hatches of the flocks to be tested and kill the day-old birds saving the blood for individual testing.

**Embryo Lesion Test.** The hatchery can make its own test of the supply flock and the hatchery procedure by spot checking pipped (dead-in-shell) embryos. The test, called embryo lesion test, requires visual inspection of the chick's air-sacs for pus plaques. If any suspicious signs are noticed from this test, the rapid serum agglutination test should be performed on 25 one-day-old chicks.

Procedures for conducting the embryo lesion test include: 1. Cut into the abdomen near the sternum of the pipped embryo with a pair of pointed four-inch sissors.

2. Cut into each side of the embryo through the ribs, lungs and thoracic air sacs to a point just below the base of the wings.

3. Make a downward cut through the lower abdomen.

4. Remove the viscera by cutting the proventriculus which will then expose the heart, lungs and the thoracic and abdominal air sacs.

5. Check for typical lesions which may contain a pus plaque. Only the well defined air sac lesions should be considered in checking for presence of PPLO.

**It Pays.** In markets where PPLO-free stock has been produced in volume, the "free" status has been readily maintained. In Great Britain, for



THE EQUIPMENT needed for the rapid serum agglutination test includes blood tubes and rack, antigen dispenser, tile and wire loop.

## Wie soll man PPLO-frei Programme überwachen?

Dies ist der dritte Artikel einer Berichterstattungsserie über das PPLO-frei Konzept in der Broilerwirtschaft. Um PPLO-frei zu bleiben, muß in der Broilerwirtschaft ein Überwachungsprogramm aufgebaut werden, das nach den zwei Hauptprüftechniken arbeitet; die Schnellagglutinations-Serumprobe kann an weiblichen Elterntieren direkt auf der Bruteierfarm durchgeführt werden. In der Brüterei arbeitet man mit dem embryonalen Affektionstest, um einen PPLO-Ausbruch festzustellen: es wird eine Sektion am noch nicht geschlüpften, toten Küken vorgenommen.

## Comment contrôler un programme PPLO-free?

Voici le troisième d'une série d'articles explicitant l'application d'un programme PPLO-free, pour la production des poulets de chair.

Pour conserver de réelles conditions PPLO-free, les producteurs de poulets doivent instituer un système de contrôle s'appuyant essentiellement sur deux types de tests. Le test sur la vitesse de sédimentation ou agglutination peut s'effectuer sur les reproductrices dans les poulaillers de reproduction.

Au couvoir, le contrôle des lésions des embryons permet de déceler une irruption du mycoplasme gallisepticum S 6 (PPLO) en faisant l'autopsie des poussins morts en coquilles.

## Come premunirsi per programmare l'immunità da PPLO

Questo é il terzo di una serie di articoli riferentisi al concetto di immunità da PPLO nella produzione del broiler. Per mantenere uno stato di immunità da PPLO, gli allevatori di broiler devono stabilire come premunirsi con un sistema che usi le due principali tecniche di test. Il test della rapida agglutinazione del siero può essere eseguito sui riproduttori femmine nel centro di riproduzione, mentre il test della lesione embrionale viene usato nell'incubatoio per individuare lo scoppio di PPLO per mezzo di un esame effettuato "postmortem" sui pulcini deceduti in guscio.

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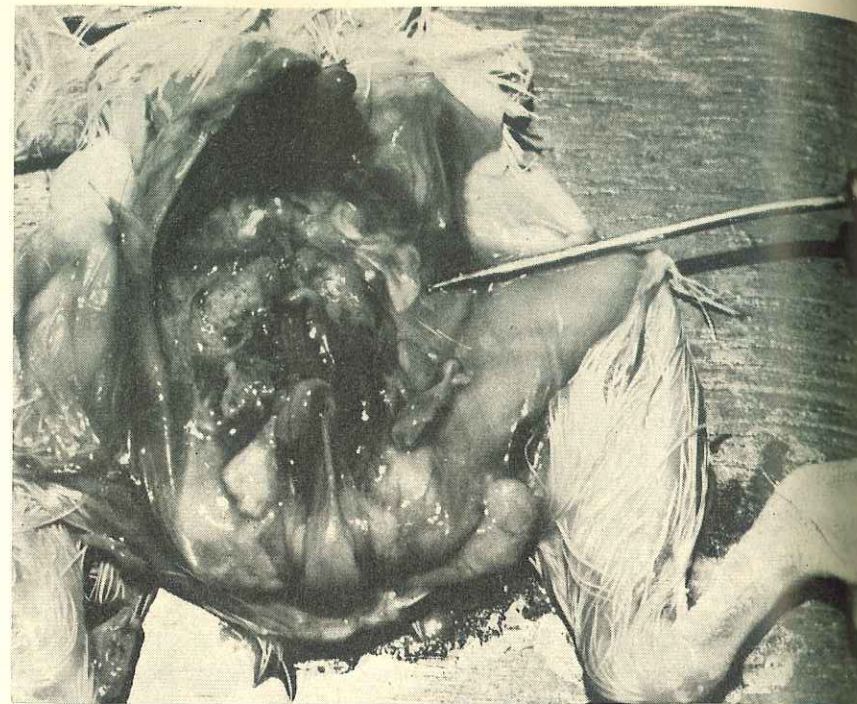
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BY USING the embryo lesion test, the pipped (dead-in-shell) embryo shows characteristic air sac lesions caused by the presence of Mycoplasma Gallisepticum.

example, the Cobb Breeding Company Ltd., has tested over 250,000 bloods since the beginning of 1967. This figure represents two 10% sample tests from all the company's PPLO-free stock marketed during this period. This is equivalent to more than 250 flocks tested of which only 7 flocks have become positive, by showing an increase in the number of reactors between the first and second tests.

Aside from the benefits directly concerning PPLO, many poultry health experts consider a PPLO-free program an important asset to the over-all health of flocks. Reasons:

1. The absence of sub-clinical air sac or CRD disease which decreases the birds' resistance to other diseases.

2. Enforcement of proper management techniques which itself prevents spread of other diseases.

By reducing the possibility of outbreaks from other diseases, broilermen receive added benefits to the existing increases in profits supplied by the actual elimination of S<sup>6</sup> PPLO.

*Material for this series of articles was supplied by Mike Dines, marketing manager, The Cobb Breeding Corp. Ltd., Cut Hedge Farm, Braintree, Essex, England.*

## Dr. Ben Krautman is a weird nutritionist

Ben looks and talks like a normal scientist. He wears glasses and uses big words. But this Hy-Line scientist goes at the layer nutrition business kind of kaddy wampus.

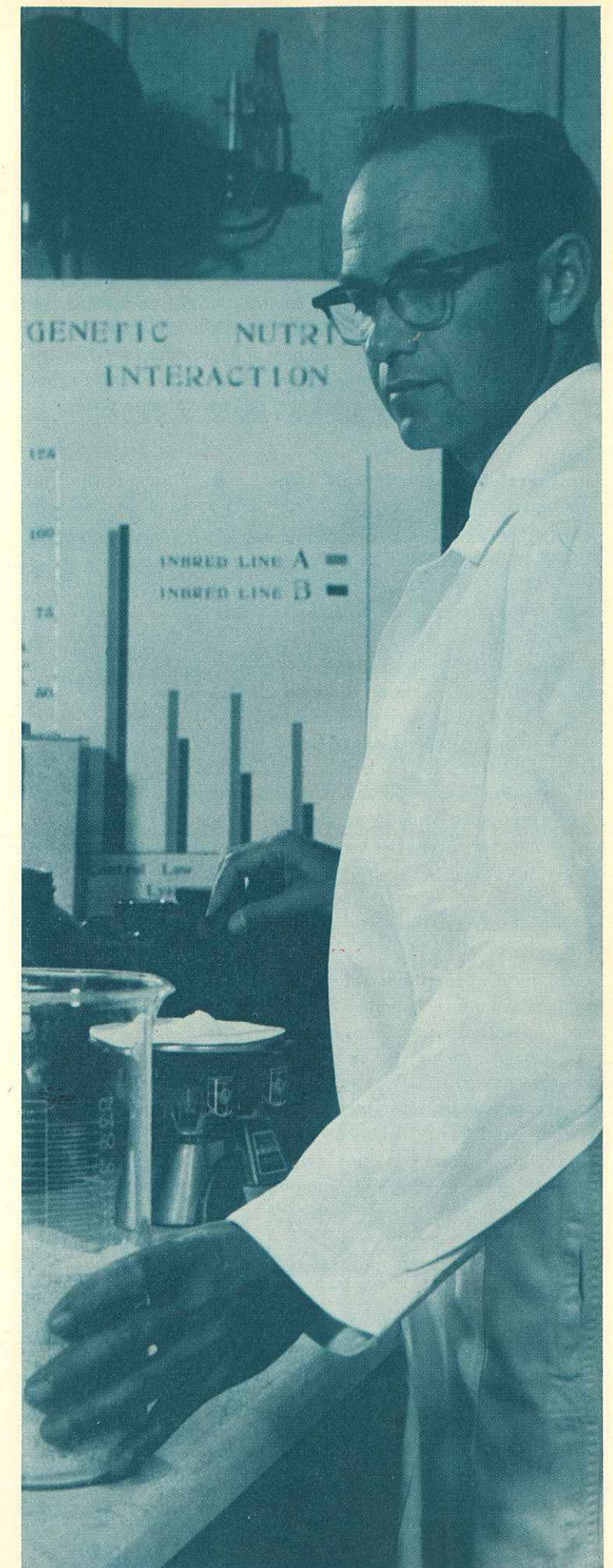
Instead of finding a ration to fit a Hy-Line layer, he aims to breed a Hy-Line layer to fit a ration—a ration that lowers egg production costs.

For example: Protein and the amino acids that make it up cost a bundle. If a layer needs less protein to do a good job, she can cut your feed costs. And Dr. Ben Krautman, by testing birds on specially formulated feeds, has found dramatic evidence that some inbred lines need less of some expensive amino acids than other lines. Breeding this trait into the already thrifty Hy-Line layer will put even more life into your bank account.

In short, Ben works on developing new Hy-Line layers that will perform better on cheaper feed substances—and boost your profits.

You'd think that feed companies would get a little sore at Ben for his "cheap feed" breeding. Not so. Feed companies like layers that help their customers pay feed bills easier.

That's probably why so many feed people like Hy-Line layers best.



## BNA COLUMBUS AUTOMATIC EGG-EMPTYING and SEPARATING MACHINES

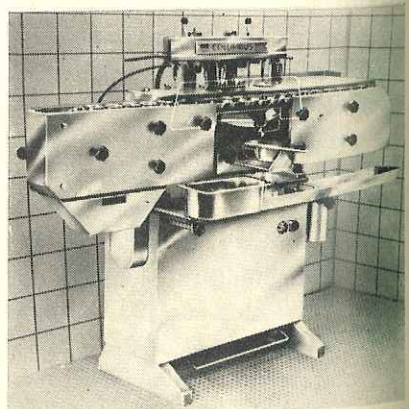
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