

Poultry seminar

[Continued from Page 1] centered around recent studies that both had done with egg shell problems. One supplemented the other with Bezpa centering on the

causes of egg shell damage, and Birth on the solution to the shell breakage problem. Basically, through recent statistical studies including an eight-state field study,

Bezpa has found that the average amount of eggs either cracked or broken in the northeastern region of the United States is 12.15 per cent, with 50 per cent of the farms having over 10 per cent damage.

Exclaiming over the high cost poultrymen pay for this 10 per cent damage, Bezpa brought home his point by breaking it down into size of flock and dollars lost.

Using the industry average of 240 eggs per bird per year, and the 15 cent spread between the cracked egg market and the sound shell market, the total comes to 30 cents per bird lost per year. In other words, if a poultryman raises 30,000 birds, he will lose \$9,000; if he raises 60,000 birds he will lose \$18,000; and if he raises 100,000 birds, he will lose \$30,000 per year.

"These are not fabricated figures," claimed Bezpa, "these are accurate."

Another way to break down the monetary loss due to egg shell damage is to compute it in dollars per day.



Kermit Birth



Dr. Stan Smith



John Bezpa

In a flock where the average amount produced is 53,000 eggs a day, (75,000 birds) there is an \$80 - \$100 loss daily with 10 per cent shell damage.

Many factors influence the cracking of the shells. Thickness, size, shape and condition of shell all play a part as well as management, equipment, egg movement, handling, number of insults to the shell, aging, nutrition, and health of the bird.

Bezpa, however, was primarily interested in how the eggs became broken on the way from the hen to the carton in the first of two studies he cited. In the field study it was pointed out that 3.83 per cent of the breakage occurs at point of lay. The reasons for this could be cage design, number of birds per cage, the position of the birds in the cage, the laying behavior of the birds, and the number of eggs on the belt. Age is also a factor. According to Bezpa, the percentage of breakage increases each month by 1/2 of one per cent as the bird gets older.

Another important factor in the high incidence of egg shell damage is the machinery involved, and the conveyance of eggs from one point to another.

"As long as the belt are level, from one point to another, and you have the proper flow of eggs on that belt, you can convey eggs from Lancaster to Reading and not incur any breaks," Bezpa pointed out. Straight line travel under good conditions turned out to be relatively stress-free for the eggs.

However, when eggs are taken from one elevation to another, or when the directional flow of eggs is

changed, as at a corner, then breakage will be higher.

"At a corner, occurrence of breakage depends on the quality of the shell and the number of eggs on that belt." At one operation used in the field study, the incidence of breakage was as high as seven per cent at the corners of the conveyor.

Bezpa stated that through the study, the researchers did find out that the way to eliminate breakage at corners is to blend the size of eggs.

"If you're conveying eggs from an old flock, it's a good idea to mix it in with eggs from a young flock - then you have large and small eggs," Bezpa explained.

One surprising result of the study came when the researchers looked into the affects of the washer on breakage.

"We thought there would be an awful lot of breaking occurring with the washing of the eggs, but we found less than 3/4 of a per cent," he said. Thermal cracks were found from putting 50-55 degree eggs into a washer that is 110 degrees.

"You run into thermal checks that way," noted Bezpa.

A total summary of the study showed that less than five per cent of egg shell damage occurred from the cage to the cooler, and about half occurred in the processing.

Kermit Birth went on to qualify some of the points which Bezpa had made. He asserted that while an egg may crack anywhere along the line from producer to consumer because of stress put on the shell, the primary cause of that egg breaking

probably occurred at the point of lay.

"An egg shell may get as many as 30-plus stresses on it," he explained, "and somewhere it's got to give, but the actual cause of the break may not be the principle cause. A lot of those problems start where it rolls out of the nest," he concluded.

He gave a few techniques of finding the problem in a system that is cracking or breaking shells. He said to first look at the location of the damage and the point of impact. Also, it is important to look for patterns. And, when further evaluating shell damage, make a list of where the eggs are stressed on the machinery. Then, once the list is made, code them, and go over the systems a few more times, listening and looking for more stress points. Then, if the cracks are occurring where they really shouldn't, go back to the point at which they roll out of the nest and check there for the problem there.

Poultry Nutrition

Dr. Stan Smith, Agway, New York, spoke on the second topic of the program. His area of expertise was nutrition and the importance of the different variables in the chicken's diet. He stressed that due to the poultry now being confined to the cage, the diets which producers give them must contain all the nutrients necessary for healthy egg production, because the birds can no longer go elsewhere to fend for themselves as they once did. And, one nutrient that Smith stressed as being of key importance is water.

"Just mistreating water can knock your production about as fast as anything," he asserted, bringing to focus the point that if a producer wants to bring a bird down in production, he removes the water and feed.

A bird needs about one pint of water for every large egg produced. Smith advocates having a waterer on each partition so if one is faulty, the bird has access to another waterer.

He went on to explain other nutritive elements and how they affect the health of poultry as based on his own research and the findings of others in the field.

Following the meeting, all participants were invited to talk with the speakers and examine a candling display which Birth provided

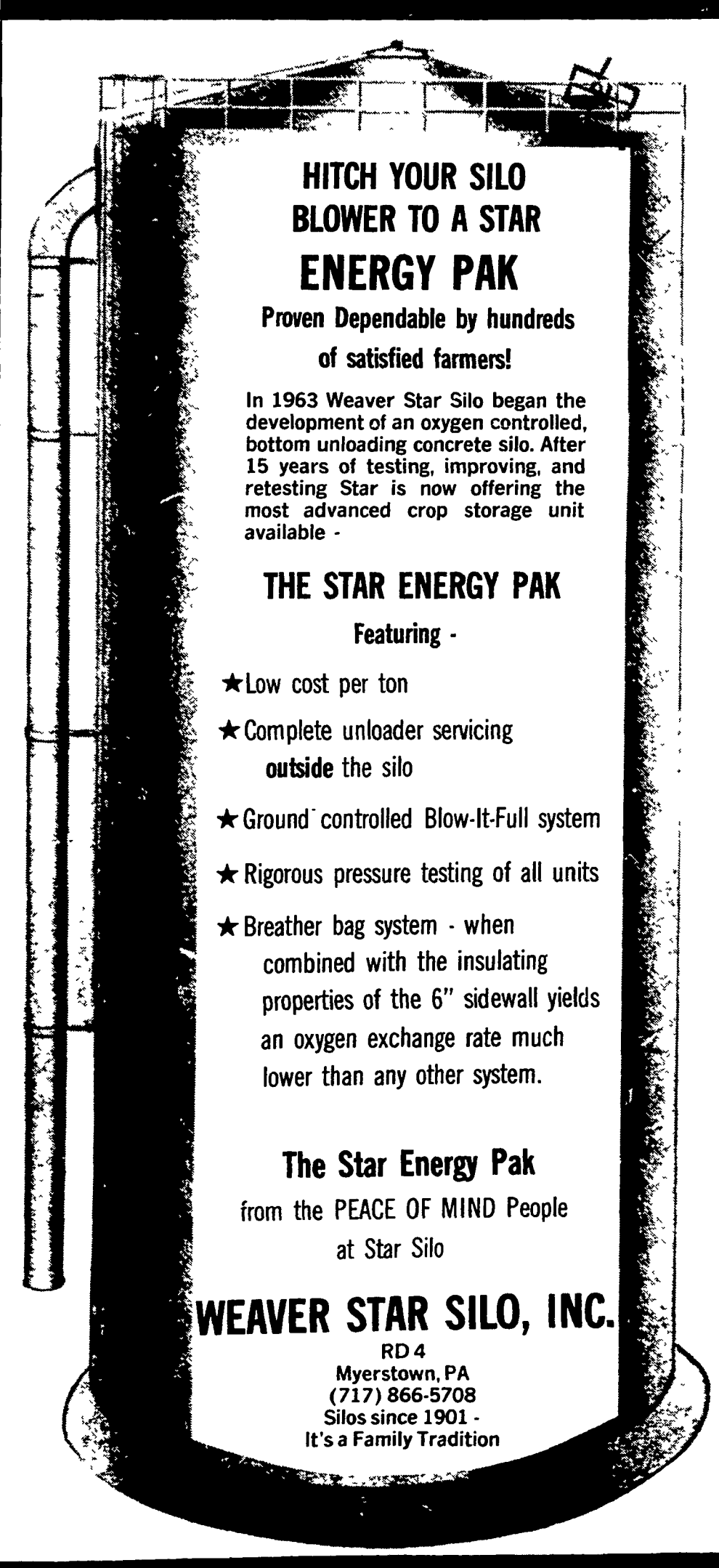
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