Disease Alert: Multi-State Pullorum Outbreak in Non-Commercial Poultry

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INTRODUCTION

Pullorum and Fowl Typhoid are two very similar diseases caused by Salmonella bacteria. Pullorum is caused by *Salmonella pullorum* and Typhoid is caused by *Salmonella gallinarum.* Both diseases have been known for a very long time. Early in the last century, these two diseases greatly limited the expansion of the poultry industry due to death loss in affected birds. Both diseases are transmitted to poultry through infected breeders via the hatching egg. Infection can also spread among birds that come into contact with each other in the hatchery.
A significant percentage of infected chicks die the first two weeks of life. Survivors may be shedders of the organisms and continue to be infectious, even though they may not always display symptoms. In 1934, the National Poultry Improvement Plan (abbreviated as NPIP) a voluntary cooperative State-Federal program, was created by the poultry industry for widespread testing and elimination of these diseases.

Pullorum and Typhoid symptoms include white pasty diarrhea, weight loss, high mortality in chicks and infection of most organs, especially the reproductive tract. The whole blood plate agglutination test and the tube test are used to screen potential carriers of this disease. A conclusive diagnosis of Pullorum or Typhoid is made when the bacteria are isolated from internal organs of euthanized birds. Because non-specific serological reactions occasionally occur, a grower is given the option of waiting a few weeks to re-blood test sero-positive birds to see if the birds remain positive or become sero-negative. Flocks with birds that blood test positive by law, cannot sell or send birds to poultry exhibitions or auctions until all blood test positive birds are removed and cultured. If the bacterial cultures are negative, the flock is no longer under movement restrictions.

For the most part, the NPIP program has been very successful. Pullorum and Typhoid cases in commercial poultry and small flocks have been very rare throughout the United States, with perhaps 2-4 cases being reported nationally every year. Many small flock producers have come to think of Pullorum and Typhoid as nearly extinct illnesses and some have questioned the wisdom of continued testing.

Unfortunately, in this past year, the number of cases in the United States has increased dramatically, with approximately **40 reported positive flocks found in 12 states** according to NPIP officials. Some of these cases have been linked to a common mid-west hatchery. **Recently a Pullorum positive case has been confirmed in a hybrid araucana chicken from Somerset County in Pennsylvania. It appears this bird was purchased at a Pennsylvania auction. The original source of this bird is currently unknown.**

These multi-state outbreaks demonstrate several important points:

1. Diseases thought to be nearly eradicated can reappear if proper biosecurity and regular monitoring are not faithfully followed. This is especially true of diseases which are egg-transmitted.

2. The numbers of hatcheries have dramatically declined in the last 40 years. The few that remain hatch large volumes of eggs and often ship to multiple states and sometimes to other countries. This can result in rapid, widespread dissemination of a disease in a short period of time if disease monitoring and biosecurity are not in place.

3. An NPIP monitored hatchery agrees to obtain hatching eggs from NPIP monitored breeding flocks. The NPIP monitored status indicated that these businesses test on a regular basis for several egg-transmitted diseases and agree to certain biosecurity and sanitation standards. If you custom hatch eggs from other small producers insist that their flock be NPIP monitored before intermingling eggs in the incubator.

4. Small flock owners should always insist that replacement stock come from NPIP-monitored hatcheries and flocks. Purchasing birds from non-monitored breeders and hatcheries (such as at auctions, swap meets or unknown dealers) may result in introduction of diseases, including Mycoplasmosis, Pullorum and Typhoid, and other potentially dangerous infections.

5. Small flock producers should seek help if signs of illness and unusual death loss are observed. The Pennsylvania Diagnostic Laboratory System is **FREE** to owners of flocks under 1000 birds. There are three laboratories in this system, one at Penn State University Park (ph # 814-863-0838), one at Harrisburg (ph# 717-787-8808) and one at New Bolton Center outside of Philadelphia (ph# 610-444-4282). The vast majority of diseases seen at the laboratories tend to be treatable and preventable once a correct diagnosis is made. However, allowing a disease such as Pullorum or Typhoid to spread to other flocks is dangerous to all poultry owners.

6. Pullorum and Typhoid are two serious diseases that are definitely unwelcome in any flock, small or large. Participation in the National Poultry Improvement Plan will help keep all flocks free from these illnesses. All flock owners are encouraged to join NPIP by contacting the PA Dept of Agriculture (ph#717-783-8555) and only purchase replacement stock from participating NPIP providers.

7. Another resource for questions on poultry management, husbandry, nutrition, youth programs, and biosecurity is the Poultry Science Department at Penn State University. Several poultry extension specialists are available to assist small flock owners manage their flocks for hobby or profit. They can be reached at 814-865-5573.