Study Material
for South Carolina Authorized NPIP Testing Agent Candidates

THE NATIONAL POULTRY IMPROVEMENT PLAN – NPIP

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SC NPIP program presentation at: http://www.clemson.edu/public/lph/ahp/poultry_npiptesterspage.html

Becoming an Authorized NPIP Testing Agent (SC NPIP Tester) is an <u>optional</u> part of the SC NPIP & Small Flock Workshop. For those interested, read this study material in order to take the test during the workshop.

The Nation Poultry Improvement Plan (NPIP) is a voluntary program administered by the USDA, the various states, and the poultry industry. Begun as a national program in 1935, it was designed to improve the poultry industry by controlling and eradicating Pullorum disease and fowl typhoid from poultry flocks, improving the selection of breeders and sanitation practices. Participation was, and still is, voluntary; the incentive to participate being the use of official NPIP logos on advertising and containers and the ability to ship product across state lines or internationally easier. Although still a voluntary program, state and federal regulations make it difficult for a poultry business of any size to operate without participation.

The program has been so successful that Pullorum and fowl typhoid infections are rare, and many states, such as South Carolina, are proud to claim the status of an U.S. Pullorum-Typhoid Clean State. To retain Clean status, laws are necessary that require all poultry entering the state to be "U.S. Pullorum-Typhoid Clean" or equivalent or enter the state with an interstate veterinary inspection certificate (iCVI) showing a negative Pullorum-Typhoid test within 30 days. All SC poultry going to exhibitions must be "U.S. Pullorum-Typhoid Clean" or tested negative within 90 days. There is no NPIP or state requirement for poultry moving to immediate slaughter.

Because of the success of the NPIP, only commercial primary breeder flocks need to be tested every year. Commercial multiplier flocks supplying eggs to "U.S. Pullorum-Typhoid Clean" hatcheries have been allowed to reduce annual testing to a zero level. All hatching eggs and day-old poultry moving in commerce must be "U.S. Pullorum-Typhoid Clean". Started poultry (birds that have been fed and watered) may retain their NPIP status up to 6 months of age if they are housed on a NPIP participating farm.

An Authorized NPIP Testing Agent is a person licensed by the state plan to perform Pullorum-Typhoid tests that can be performed in the field or to obtain samples for laboratory testing only within the state of South Carolina.

SALMONELLA

Salmonella are a very large group of intestinal bacteria – there are over 2,300 different types. A few of the *Salmonella* can cause specific diseases in certain animals or humans, for example, 20-40 specific types of *Salmonella* can cause disease in poultry.

Clinical signs in poultry with *Salmonella* infections can vary, including no signs of disease, diarrhea in young poultry, high death rate in young poultry, decreased egg production and hatchability, and decreased feed and water consumption. The birds can be infected by *Salmonella* through bird to bird contact, fecal contamination, hatchery contamination, and through the egg from the infected breeder flock to the chicks.

Pullorum (caused by *Salmonella pullorum*) and fowl typhoid (caused by *Salmonella gallinarium*) are specific *Salmonella* diseases of poultry in chickens, turkeys, game birds (quail, pheasant, peafowl, partridge, grouse, guineas), and domesticated ducks and geese. Doves and pigeons do not get these two *Salmonella* diseases. These two *Salmonella* diseases also do not affect people. Pullorum-Typhoid infections have essentially been eradicated from the commercial poultry industry through intense testing of breeder flocks and depopulation of any positive flocks. However, reservoir birds (backyard flocks) still keep the disease alive and a threat to all of South Carolina's diverse poultry industries.

Other types of *Salmonella* that have similar antigens to Pullorum-Typhoid and will stimulate the production of antibodies in chickens that will cause a positive blood test. This is why further laboratory testing is necessary to determine if the poultry are truly infected with Pullorum-Typhoid.

MYCOPLASMA – MG, MS, MM

Mycoplasma is an organism that is similar to bacteria. It is also similar to *Salmonella* in that it can be spread through the egg from the infected breeder flock to the chicks, bird to bird contact, fecal contamination, and hatchery contamination. Clinical signs in infected birds can include respiratory illness, decreased egg production and hatchability. There are several types of mycoplasmas. The following types are included in the NPIP program: *M. gallisepticum* (MG), *M. synoviae* (MS), and *M. meleagridis* (MM). Breeder flocks are classified as U.S. Clean or U.S. Monitored depending the amount and frequency of testing.

AVIAN INFLUENZA

Avian influenza is a virus that can infect all types of poultry. There are many different strains or types of avian influenza, some are very mild and show no signs of illness, while other types can be very severe with respiratory and nervous system signs and a high death rate in the birds.

This disease has become so important to identify early in order to control outbreaks, that it was also included in the NPIP program even though it is not an egg transmitted disease, like salmonella and mycoplasma. All of South Carolina's commercial breeders, broilers, turkeys, egg layers are involved in testing their flocks for avian influenza. Other states also require avian influenza testing of poultry prior to entry into their state.

PULLORUM-TYPHOID TESTING BY AUTHORIZED NPIP TESTING AGENTS

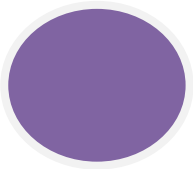
There are 3 different types of blood tests for Pullorum-Typhoid:

1. The rapid whole blood plate test or "plate test" which can be done in the field,
2. The serum microagglutination test which is done in the laboratory, and
3. The serum tube test which is also done in the laboratory.

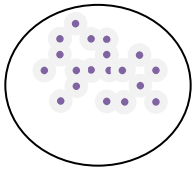
Each of these three tests looks for exposure to the diseases by examining blood from the individual birds for the presence of antibodies (part of the body's immune defense system) against the Pullorum-Typhoid bacteria. The SC Authorized NPIP Testing Agent may perform the rapid whole blood plate test in the field using Pullorum-Typhoid antigen on chicken breeders, game bird breeders, and waterfowl breeders for NPIP Pullorum-Typhoid Clean status, and on all types of exhibition poultry (chickens, turkeys, game birds, and waterfowl) to enter a show. The official test for turkey breeders to be classified as NPIP Pullorum-Typhoid Clean is one of the tests performed at the laboratory and not the field plate test. Blood collected by the

Authorized NPIP Testing Agent may be submitted to an approved NPIP laboratory to perform the laboratory test for turkey breeder Clean classification.

In the whole blood test performed in the field, a loop full of blood taken from the wing vein is mixed with a drop of the Pullorum-Typhoid antigen on a glass plate at room temperature. The antigen is dyed purple in order to see the reaction better. The plate is tipped back and forth to continue to mix the blood and antigen. If no antibody is present in the blood, the stained antigen will remain smooth looking for at least 2 minutes. If there is antibody present in the serum, it will stick to the antigen and clump into little islands large enough to be visible within 2 minutes. A bird with a positive test is considered a reactor, but not considered a positive bird until further laboratory testing is performed. Pullorum and Typhoid have similar antigens and either one can be detected with the same antigen test. All birds that are tested must be identified with a SC NPIP tamper-proof numbered leg or wing band and recorded on the official Pullorum-Typhoid Testing Report.



Negative Test



Positive Test (Reactor bird)

HANDLING PULLORUM-TYPHOID REACTORS

Because birds may have been exposed to other types of *Salmonella* with similar antigens, all reactors may not be infected with Pullorum or Typhoid and will need further testing. The Authorized NPIP Testing Agent should first redo the rapid whole blood plate test, making sure the testing plate is clean and the antigen has not expired. If the birds still reacts to the plate test, the Agent must assure that all reactors are retained at the farm for additional testing. All reactors will be retested by a SC NPIP State Inspector. If the secondary laboratory blood tests still come back positive, then all reactor birds (maximum 25) must be submitted to the diagnostic laboratory for cultures of the internal organs. If cultures fail to yield Pullorum or Typhoid, the remainder of the flock will be considered negative.

All flocks found to be infected with Pullorum or Typhoid will be quarantined until the infected birds are slaughtered or destroyed.

NPIP PULLORUM-TYPHOID AND AVIAN INFLUENZA TESTING

1. Testing requirements for NPIP Pullorum-Typhoid Clean:
    a. For the first time to qualify your premises as Pullorum-Typhoid Clean, 100% (all poultry-type birds on the farm, breeders and others, but not pigeons or doves) need to be tested negative. A private licensed SC NPIP Tester will Pullorum test the birds on-site (there is a fee for this). For turkeys to be Pullorum Clean breeders, the Poultry Inspector will collect blood and send it to the lab for Pullorum testing.
    b. After that the following birds are tested during the annual retesting: (1) breeders and replacement breeders, (2) birds used to sit on eggs, (3) birds used to brood babies, (4) any show birds, and (5) and other birds on the farm that have contact with these tested birds (beak to beak touching). A

private SC NPIP Licensed Tester can do the annual retesting of the flock. Either a private tester or State Tester will collect blood for turkey breeders.

2. Testing requirements for NPIP Avian Influenza (AI) Clean:
    a. Some states (NC, GA, FL, VA, PA, TN, TX, etc.) require that poultry entering their state are individually tested negative for AI or come from breeder flocks that are classified as NPIP AI Clean.
    b. Flocks must also be NPIP Pullorum-Typhoid Clean.
    c. Flocks will be sampled every 6 months for AI. The maximum number of birds sampled is up to 30 birds per species type (chickens, turkeys, guineas, etc.).
    d. AI samples (throat swabs) are collected by a State inspector and submitted to the Clemson Veterinary Diagnostic Laboratory for PCR testing. There is a fee for this test. Sometimes there is USDA grant funding to help pay for some of the testing.

3. Individual Official Identification requirements:
    a. All birds tested for Pullorum and/or AI must be identified with an Official NPIP State band (leg or wing band, no matter which State it is). Babies too small in size to hold a band at the time of testing can be banded later.
    b. All birds crossing state lines for any reason (interstate movement for sale, show, etc.) must be identified with an Official NPIP State band (leg or wing band, no matter which State it is). Babies too small in size to hold a band at the time of movement are excluded. Band numbers will be recorded on an Official Movement Document.
    c. NPIP flock owners can buy the required SC NPIP bands from the SC NPIP Office.

4. Inspection requirements:
    a. A State poultry inspector will do an annual NPIP inspection on the flock, bird housing, hatchery room and records.
    b. Poultry equipment, poultry houses/pens and the land in the immediate vicinity shall be kept in sanitary condition. The participating flock (annually tested birds), their eggs and all equipment used in connection with the tested flock shall be separated from non-tested birds – or all birds in contact will be Pullorum tested every year too.
    c. All flocks shall consist of healthy, normal individuals, characteristic of the breed, variety, cross or other combination, which they are stated to represent.
    d. Hatcheries, including brooder rooms, shall be kept in sanitary condition: (1) Entire hatchery shall be shall be kept in a neat, orderly condition and free from accumulated dust; (2) Incubator walls, floors and trays shall be kept free from debris, such as broken eggs and eggshells; (3) Hatchers and trays shall be cleaned and disinfected after each hatch. Hatchery residue (eggshells, pips, etc.) shall be disposed of promptly and in a manner satisfactory to the SC NPIP State Inspector; (4) Tops of incubators and hatchers shall be kept clean (not used for storage); (5) No birds or other animals are allowed in the incubator/hatcher rooms (no birds held or brooded in the same room as the machines).
    e. All poultry offered for sale shall be normal and typical of the breed, variety or cross. Hatching eggs shall be sound in shell and typical for the breed, variety or cross.
    f. Any unused NPIP 9-3 Movement paper forms and/or unused NPIP bands will be inventoried.

5. Registration:
    a. The farm and breeding flock will be registered with the NPIP National Office to receive a NPIP Flock Number and listed in the national directory.
    b. The farm will be given an Official Premises ID number with Clemson University Livestock Poultry Health.

6. New birds or hatching eggs added to the farm from an outside source:
    a. Any hatching eggs added to the farm from another source (future breeders or fun birds) must come from a current NPIP farm.
    b. Any birds added to the farm from another source (future breeders or fun birds) must come from a current NPIP farm or Pullorum tested negative before bringing onto farm and mixing with Pullorum negative flock. A private licensed SC NPIP tester can do this testing.
    c. Find current NPIP flocks in the national NPIP Directory, look under each state with an "E" next to their NPIP Flock Number: http://www.poultryimprovement.org/statesContent.cfm
    d. Proof of Pullorum-Typhoid Clean status or testing must be kept as records and available to show at the annual inspection.
    e. Any out-of-state birds added to the farm must also have copies of the official movement document (NPIP 9-3 movement form or SC Record of Interstate Movement form).

7. Interstate Movement Form requirements:
    a. Any hatching eggs or birds that you move across state lines for any reason (interstate movement for sale, show, etc.) must be accompanied with an official movement document, such as a Certification of Veterinary Inspection (CVI) or a NPIP 9-3 Movement form. Copies are sent along with the hatching eggs/bird and to Dr. Helm (SC NPIP State Inspector), and you keep a copy for your records. You will need to contact the state of destination for their requirements first (http://www.clemson.edu/public/lph/ahp/images/import.pdf).
    b. Any hatching eggs or birds that you received from an out-of-state source must be accompanied with an official movement document, such as a Certification of Veterinary Inspection (CVI), a NPIP 9-3 Movement form, or a Record of Interstate Movement of Poultry into SC form (http://www.clemson.edu/public/lph/ahp/images/npip/poultryentryform.pdf). Copies are sent to Dr. Helm (SC NPIP State Inspector) and you keep a copy for your records.
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8. Record keeping requirements:
    a. Records (such as a log book) must be kept for any birds or hatching eggs entering or leaving the farm and include (1) date of movement in or out, (2) name, address, phone of person, and (3) the number and type of poultry moving in or out. Records will be subject to inspection by the SC NPIP State Inspector.
    b. All NPIP records must be kept for 3 years.

9. What happens when a bird tests positive on the Pullorum-Typhoid test?
    a. Pullorum-Typhoid is a Reportable Animal Disease to the State Veterinarian's Office. These are very important Salmonella bacteria diseases of poultry and is why we have these programs to make sure that breeding flocks are and stay negative. I do want you to understand ahead of time what happens if a bird tests positive to the Pullorum-Typhoid test. Luckily these are uncommon events.
    b. If a bird has a positive test to the field plate blood screening test or the lab blood test, the bird is called a reactor. These screening tests do not confirm the bird is or has been infected with the Salmonella Pullorum or Fowl Typhoid, it is only a screening test for antibodies (proteins) in the blood which may be past exposure to these 2 diseases. Sometimes other types of Salmonella bacteria, other diseases, or other proteins in the blood cause this test to react, what we call "false positive" reactors.
    c. For any positive plate screening tests, all birds are put under a "Quarantine" so that no birds or hatching eggs can leave the home premises until we find out if the birds have the disease or not. Blood is taken from the reactor bird(s) and a more specific lab test is performed. If the lab test is negative, then the flock is considered negative and gets the Clean certification with the passing

inspection; or is allowed to continue the individual bird testing process (cross state lines, go to the fair, etc.).

d. If the lab test is positive (still a screening test), then there are 2 options at that moment: (1) the reactor bird is voluntarily released to the State Vet's office, euthanized and the internal and reproduction organs are cultured looking for Salmonella pullorum or Salmonella ("typhoid") bacteria. If the cultures are negative, then the Quarantine is released and the flock is certified as Clean or negative. (2) The 2nd option at this moment is to wait 30 days under Quarantine and redo the lab blood test—this is in case it is not Pullorum-Typhoid, but something else causing the reaction, and giving the bird extra time to clear the non-Pullorum/Typhoid proteins out of the blood. If the 2nd lab blood test is positive again, then the reactor bird is voluntarily released to the State Vet's office, brought to the lab to be euthanized and sampled for internal organ/reproduction salmonella cultures.
e. If the salmonella culture lab test is negative, then the flock is considered negative and gets the Clean certification with the passing inspection; and the Quarantine is released.
f. If the cultures grow Salmonella Pullorum or Typhoid bacteria, then that is the confirmation test. The Quarantine order continues on the premises and testing of all of the birds on the premises will continue every 30 days until all birds test negative for 3 monthly tests in a row or all birds are voluntarily depopulated, it depends on the situation. We must be sure that the infected birds or contaminated equipment did not spread it to the other birds in the flock or to other farms.

10. <u>What happens when a bird tests positive on the Avian Influenza test</u>?
    a. Avian Influenza is a Reportable Animal Disease to the State Veterinarian's Office.
    b. If a bird has a positive PCR oropharyngeal swab test (which looks for current infection – actual genetic pieces of the virus) – further testing must be done to confirm this test.
    c. All birds are put under a "Quarantine Order" so that no birds can leave the home premises until we find out if the birds have the disease or not. More blood and swabs may be collected from other birds.
    d. The positive PCR tests are sent to the USDA Laboratory in Ames, IA. USDA will confirm the test – if it is AI positive or negative – and they will do further testing to determine what type of AI it is (H7N2, H5N2, etc.) and if it is Low-Path (mild version) or High-Path (severe form) of AI.
    e. If USDA cannot confirm the tests are positive for AI, the Quarantine Order is released.
    f. If USDA confirms the tests are positive for AI – then it depends on the subtype of the AI virus infection, if it is Low-Path or High-Path, and if the flock is actively infected with AI or had a previous infection in the past. Essentially it is on a case-by-case basis on the outcome of the flock, whether it will be depopulated or not.

POULTRY GOING TO EXHIBITIONS / SHOWS / FAIRS

In SC: SC state law requires that all SC fowl going to SC exhibits be U.S. Pullorum-Typhoid Clean or each bird has tested negative within the last 90 days. Any out of state poultry coming to a SC exhibit must be U.S. Pullorum-Typhoid Clean or each bird has tested negative within the last 30 days of entry into SC. The exhibit or show rules must require evidence of such status or a negative Pullorum test for each bird with the official testing report and corresponding SC NPIP leg or wing bands. If an Authorized NPIP Testing Agent is present at the exhibition, birds can be tested on arrival at the show. However, if any reactors are found, all the birds from that premise must return to their farm and wait retesting by the NPIP State Inspector.

Birds crossing states lines (coming into SC or leaving SC) to attend an exhibition will need an official movement document, such as a Certification of Veterinary Inspection (CVI) or a NPIP 9-3 Movement form. Copies are sent along with the birds and to Dr. Helm (SC NPIP State Inspector), and you keep a copy for your records. Birds going out-of-state to an exhibition -- you will need to contact the state of destination for their requirements first (http://www.clemson.edu/public/lph/ahp/images/import.pdf).

If you are in charge of setting up a poultry show or exhibition (4-H, breed show, etc.), then you must follow the above and also get an exhibition permit from Clemson University Livestock Poultry Health: 803-726-7805 or www.clemson.edu/public/lph/ahp/permits.html.

AUTHORIZED NPIP TESTING AGENTS TESTING AT INTERSTATE AUCTIONS

In SC: SC state law requires that any out of state poultry entry SC to be sold at an approved interstate auction must be U.S. Pullorum-Typhoid Clean or each bird has tested negative within the last 30 days of entry into SC. The auction must require evidence of such status or a negative Pullorum test for each bird with the official testing report and corresponding SC NPIP leg or wing bands and keep a copy of the test form in their records. If an Authorized NPIP Testing Agent is present at the auction, birds can be tested on arrival at the action. However, if any reactors are found, all the birds from that premise must return to their farm and wait retesting by their own State NPIP Inspector. SC interstate auctions must be pre-approved by Clemson Livestock Poultry Health to receive out of state birds.

RESPONSIBILITIES OF A SC AUTHORIZED NPIP TESTING AGENT

The SC Authorized NPIP Testing Agent must collect the samples, administer the test properly and document the results. These activities can only be performed within the state of South Carolina. If reactors are detected, the Authorized NPIP Testing Agent must be certain that the reactors are retained for re-examination and notify the SC NPIP State Inspector as soon as possible. Notify: SC NPIP State Inspector, 803-788-2260 or 803-260-6442.

PULLORUM-TYPHOID TESTING FACTS

The following statements should be carefully studied before taking the test to become an Authorized Agent:

1. Pullorum is a disease of poultry that causes high mortality (death) in young birds. It is caused by the bacterium *Salmonella pullorum*, one of thousands of different *Salmonella* bacteria. This disease affects only certain species of birds. Like other *Salmonella*, it is transferred from bird to bird by direct contact, contaminated feed or water, dirty pens, or unsanitary hatchery equipment. In addition, *S. pullorum* and *S. gallinarium* (fowl typhoid) may be transmitted from the breeder flock to the offspring through the egg.

2. Antibacterial medication may keep Pullorum or Typhoid infected poultry alive, but the disease has been eradicated only by testing and destroying the infected bird.

3. Blood testing detects birds that may have been exposed to the disease. When the disease organism invades a bird, the bird produces antibodies as part of the immune defense against the disease. Blood testing detects birds which have these antibodies.

4. In the rapid whole blood plate test, blood from each bird is mixed with a stained antigen on a glass plate. This antigen is a suspension of killed, stained Pullorum organisms. If antibodies are present in the blood, the antigen will stick to them (agglutinate) and little clumps of stained bacteria will be seen within 2 minutes. Turkey breeders must be bled and the serum sent to the laboratory for an official test.

5. A bird which shows a positive reaction is called a "reactor". Reactors should be retained and tested at the laboratory to determine if indeed Pullorum is present.

6. If a reactor is found, notify the SC NPIP State Inspector at Clemson Livestock-Poultry Health, PO Box 102406, Columbia, SC 29224; phone (803) 788-2260. An investigation will be made according to state law.

7. Fowl typhoid, caused by *Salmonella gallinarium*, is detected by the same testing antigen. The laboratory can determine whether the organism is Pullorum or Typhoid by culturing the bird's internal organs.

8. In order for a breeder flock to become "U.S. Pullorum-Typhoid Clean", initially all poultry on the premise must test Pullorum-Typhoid negative. To keep this classification, the breeding stock, setters, brooders, show birds and other birds connected to these birds must be tested every year.

9. SC birds going to a SC show or exhibit must be "U.S. Pullorum-Typhoid Clean" or tested negative within 90 days prior to arrival at the exhibit. Birds must be banded with a tamper proof Official SC NPIP or other Official State/NPIP leg or wing band and the band numbers recorded on the official Pullorum-Typhoid Testing Report.

10. All Pullorum-Typhoid tested birds are to be recorded on the NPIP Pullorum-Typhoid Testing Report and sent immediately to the SC State Inspector every time they are tested.

SC AUTHORIZED NPIP TESTING AGENT SELF TEST

1. Pullorum and Typhoid disease has been eradicated in most poultry flocks through:
   (a) medication, (b) vaccination, (c) testing.

2. The organism that causes Pullorum or Typhoid disease is a:
   (a) virus, (b) bacterium, (c) protozoa.

3. Pullorum is a *Salmonella*: (a) True, (b) False

4. The official NPIP Pullorum-Typhoid Clean test used for turkey breeders is the: (a) whole blood plate test, (b) laboratory test

5. Fowl typhoid reacts to the same testing antigen as Pullorum: (a) True, (b) False

6. A positive rapid whole blood plate test should react within:
   (a) 2 seconds, (b) 2 minutes, (c) 2 hours.

7. A positive reaction on the Pullorum-Typhoid plate test indicates that:
   (a) the bird is confirmed positive of having Pullorum or Typhoid,
   (b) the bird may have been exposed to Pullorum or Typhoid,
   (c) the bird should be treated with antibiotics.

8. On detecting a reactor you should:
   (a) euthanize the bird, bury it and not tell anyone,
   (b) retain the bird and notify the SC NPIP State Inspector,
   (c) depopulate the entire flock and sanitize the premises.

9. The Pullorum-Typhoid testing antigen is a suspension of:
   (a) stained live Pullorum cells,
   (b) stained killed Pullorum cells,
   (c) Pullorum positive chicken serum.

10. All poultry type birds crossing state lines or going to exhibition must be Pullorum-Typhoid tested negative or from a NPIP Pullorum-Typhoid Clean premise, except for pigeons and doves who do not get Pullorum Disease.
    (a) True, (b) False

11. Poultry moving into SC for immediate slaughter must be U.S. Pullorum Clean or tested within 90 days:
    (a) True, (b) False

12. Baby poultry or hatching eggs have nothing to do with the National Poultry Improvement Plan (NPIP):
    (a) True, (b) False

13. South Carolina is a Pullorum-Typhoid _____ State: (a) Controlled, (b) Testing, (c) Clean

14. SC NPIP Testing Agents may perform the plate test in any state in the U.S. (a) True, (b) False

15. All Pullorum-Typhoid tested birds are to be recorded on the NPIP Pullorum-Typhoid Testing Report and sent immediately to the SC State Inspector every time they are tested: (a) True, (b) False

16. An Official SC NPIP band must be placed on the bird when (there are multiple answers):
    (a) Pullorum-Typhoid or Avian Influenza testing was performed on the bird and it is big enough to hold a band.
    (b) There is already an Official State/NPIP band on the bird – either SC or another State band.
    (c) The bird is too small to hold a band (young or tiny breed like quail).
    (d) The bird will cross State lines for any reason and is big enough to hold a band

17. All poultry type birds crossing state lines for any reason (such as show, sale, swap, visit) must be accompanied with a NPIP 9-3 movement form (paper or electronic) or a Certificate of Veterinary Inspection ("veterinary health paper"): (a) True, (b) False

CORRECT ANSWERS TO SELF TEST

1. (c) Testing and elimination of bird reactors over the years has eradicated Pullorum from most poultry flocks.

2. (b) *Salmonella pullorum* is a bacterium.

3. (a) Pullorum is *Salmonella pullorum.*

4. (b) Turkey breeders must be tested in the laboratory and not using the field plate test.
With appropriate training, Authorized Testing Agents may take the blood from the turkeys and submit it to the laboratory with appropriate forms for Pullorum-Typhoid testing.

5. (a) Pullorum and Typhoid have some identical antigens and can be tested with the same bottle of antigen.

6. (b) Any agglutination or clumping <u>after</u> 2 minutes is considered a negative test.

7. (b) A reaction indicates antibodies are present, but not necessarily an active infection.

8. (b) The NPIP State Inspector enforces the Pullorum regulations. Further testing will be performed to see if the bird is truly infected with Pullorum-Typhoid.

9. (b) The antigen is stained purple to see the reaction better. The *Salmonella* bacteria is killed and is of no danger of infecting poultry if spilled.

10. (a) Poultry (except pigeons and doves) going to exhibition or crossing state lines must be tested negative or classified under the NPIP as U.S. Pullorum-Typhoid Clean.

11. (b) Poultry moving into the state for immediate slaughter require no interstate health certificate or Pullorum test.

12. (b) All baby poultry or hatching eggs moved into the state or out of the state must be U.S. Pullorum-Typhoid
Clean or equivalent.

13. (c) South Carolina has laws that allow it to qualify as a U.S. Pullorum-Typhoid <u>Clean</u> State.

14. (b) Authorized SC NPIP Testing Agents are only allowed to perform their activities within the State of South Carolina.

15. (a) Pullorum-Typhoid testing is an official test for a SC Reportable Disease and proof of testing is through recording true results on the NPIP Pullorum-Typhoid Testing Report and submitting the top copy to the SC NPIP State Inspector ASAP.

16. (a, d) If the bird already has another Official State/NPIP band (leg band or wing band), even from another state, keep the original Official band on the bird and record that number on the testing report. Do not replace the band. Birds physically too small (either young babies or tiny sized birds such as quail) do not need to be banded at the time of testing or crossing state lines – all other birds do need to be officially banded.

17. (a) All poultry or hatching eggs crossing state lines for any reason need to have official movement documents, which can include: NPIP VS Form 9-3 movement form (paper or electronic) or a Certificate of Veterinary Inspection ("veterinary health paper"). Some states also require additional annual permit numbers, so you always call the State's NPIP or State Vet Office for the state you are sending to get their requirements prior to sending.