

## **Antibody Production in Chickens**

- Type Used:** White Leghorns
- Purchased From:** Dutch Agri, LLC or other FLCS-approved vendor
- Available for Use:** Once they have established a good laying pattern

### **Antigen Preparation:**

1. Antigen used to inject into the chickens is prepared by the individual labs that are using the chickens. The following guidelines are to be followed:
  - a. The antigen must be filter sterilized to reduce the amount of inflammation at the site of injection.
  - b. The antigen must be provided to the FLSC staff in vials that facilitate sterile removal of the antigen.
  - c. Purification of the protein is vital for both optimal antibody production and the health of the animals.
  - d. The maximum required volume of antigen each time is 0.75 cc. This is then combined with an equal volume of adjuvant for a total of 1.5 cc.
2. Antigen preparations include the use of adjuvants- Complete Freund's Adjuvant (CFA) used only on the first injection and Incomplete Freund's Adjuvant (ICFA) used for subsequent injections. The CFA and ICFA is matched in volume to the antigen, making a 1:1 mix. This mix must be thoroughly emulsified.
3. All antigen preparations must be labeled with the complete name of the antigen and the number of the chicken that is to be injected.
4. The animal will be monitored for lesions or abscesses at injection sites. Any abnormality will be reported by filling out a Veterinary Log Sheet and notifying the veterinary staff. Animals may be euthanized if they meet the criteria in the IACUC's Humane Endpoints for Animal Experimentation guidelines.

### **Injection Procedures:**

1. Use a 22 to 25g needle.
2. Separate the feathers on the breast muscle area. Swab with alcohol.
3. Inject a maximum amount of 0.3 cc, per site, subcutaneous in breast area. Multiple sites, up to a maximum of five, are used (Max. total volume of 1.5 cc)..
4. The chickens are re-immunized (boosted) every 2 weeks for a total of at least three injections. ICFA is used for the second and third injections.
5. Eggs should be collected daily after the 3rd injection. Eggs collected prior to the third injection are destroyed.