



Mycotoxins are fungal/mold secondary metabolites that are toxic to many organisms including chickens, rabbits, horses, insects, bacteria, and even humans. The toxins are released by the growing fungus and can accumulate in feed that is stored under the specific conditions of temperature and humidity that allows the fungus/mold to flourish. Humans are more likely to encounter the toxins in wheat and peanuts that have been stored improperly. Diseases resulting from the consumption of mycotoxins are called mycotoxicoses. Mycotoxicoses are not contagious and cannot be transferred from one animal to another. Some mycotoxins are thought to disrupt (poke holes in) membranes within cells and others are thought to interfere with cellular processes such as protein, RNA, and DNA synthesis. Effects related to mycotoxicoses include reproductive failure, failure to thrive, loss of appetite, suppression of the immune system, increased occurrence of cancer, and even mortality in some cases. To avoid this problem Dr. Hamilton buys good quality grain and feed for her chickens and stores it in clean dry containers.

Dr. Hamilton's chicken flock contains several types of Standard size chickens including Rhode Island reds that are large birds with bright red combs (fleshy crest on the head) and wattles (fleshy folds hanging from the neck or throat). Their shanks (legs) are clean as opposed to some chickens that have feathered shanks. The allele for **feathered-shanks** is **autosomal and is dominant** to the allele for clean-shanks.

During a howling spring windstorm, Dr. Hamilton's chicken coop was damaged, and 10 chickens (including hens and roosters) escaped together to establish a small chicken colony in the woods far from their original home. The woods provide chicken food and shelter, but also houses predators and other birds that carry diseases harmful to chickens. Locals call the woods the "100 Acre Woods" - it contains 100 square acres.

Monkeypox is a rare disease caused by a virus, found primarily in squirrels and other rodents that live in the rain forests of central and west Africa. In those countries the virus is sometimes transmitted to people who are bitten or who come in contact with lesions or body fluids of an infected rodent. The first reports of human infections were in 1970 and today it is estimated to cause death in 1 to 10% of the people in Africa who are infected. In summer 2003 Monkeypox was reported in a few people in the US.

The monkeypox virus is closely related to the smallpox virus. Although smallpox has been essentially eradicated, there are many people still living who were vaccinated against smallpox when they were young. These people were vaccinated by pricking the skin and placing a drop of fluid containing a pox virus under the skin. The pox virus used in the vaccine rarely makes people ill. Some Africans who have been immunized (vaccinated) against smallpox do not become ill when exposed to monkeypox.