The judicious use of medications is a part of any balanced management program. Even so, disease outbreaks should be considered failures of nutrition, management, biosecurity, cleaning and disinfection, or vaccination programs. Preventative measures most effectively limit the adverse effects of disease but when they fail, medication can, and should be used to end the clinical signs of disease and return the flock to its normal balance. Medications should never be applied to flocks without also addressing the management failures that led to the outbreak (see Diseases of the Chicken, Chapter 27).

The proper use of medications can end the mortality and lesions associated with a disease outbreak, thus limiting financial losses. However, the improper use of medications can be costly, ineffective, and sometimes harmful. Proper use requires the consideration of:

- Class of bird (breeder, layer, broiler)
- Age of the bird
- Possible residues
- Disease diagnosis
- Sensitivity of the disease agent to medications
- Other ongoing treatments

26-A. HOW DRUGS ARE GIVEN

In Water

Medications used to treat birds have properties that make them acceptable for administration in the drinking water, in the feed, or as injections.
Administration in the drinking water is the preferred method of delivery in most cases. During a disease outbreak some birds will not eat but often they will still drink. Chickens can be encouraged to drink by removing water for one to a few hours prior to the administration of medications. However, water removal must be carefully monitored to avoid dehydration of the chickens.

The administration of medications in the water requires that the factors affecting water consumption be considered (see Consumption and Quality of Water, Chapter 22). Weather conditions or other factors that may increase the consumption of water must be taken into consideration when calculating how much medication to put into the water.

Medications given in the drinking water either form solutions or suspensions when added to water. Solutions are especially well suited for administration in the drinking water because they completely dissolve in water. Some drugs go into suspension when added to water, that is, they do not dissolve but rather float in the water. Suspensions require extra labor to keep the drugs suspended evenly in the water throughout the period of administration.

**In Feed**

For the most part, drugs administered in the feed are insoluble in water and their use is confined to the feed. Soluble drugs can alternatively be given in the feed, but water administration is usually preferred.

The amount of medication put into feed is calculated based on the drug’s optimal dose and an assumed average feed consumption for the type of bird being medicated. As with water delivered drugs, factors that may increase or decrease the consumption of feed, such as environmental temperature and production rate, should be considered when calculating doses.

**Injection**

Medications are rarely given to commercial poultry in injections because, although it is a highly effective method of drug delivery, it is very labor intensive. In addition, training workers to give injections properly can be time-consuming and expensive. Improperly trained crews risk injury with self-injection and harm to the chickens. *Self-injection is very dangerous and when it occurs, should be immediately followed by a doctor’s examination and proper medical care.*

When administered, injections are usually given subcutaneously or intramuscularly. Subcutaneous (SQ) injections are given under the skin of