

# Managing Cattle for a Wholesome Food Product

Clyde Lane, Jr., Professor – Animal Science;  
Richard Powell, Program Leader – Western Region;  
Brian White, Area Livestock Agent – Western Region;  
and Steve Glass, County Director – Decatur County



The goal of every beef producer should be to produce the highest-quality animals possible. A critical part is the way animal health practices are administered. Following recommended guidelines when giving medications and vaccines results in healthier animals, fewer carcass blemishes and a more wholesome food product. Managing cattle with the goal of producing a wholesome food product results in beef that consumers can purchase with confidence.

When working with cattle, it is important to do the job right. Producers need to learn how to correctly perform recommended management practices. This will include vaccinations, implanting, castrating, deworming and other practices.

## Administer Drugs Properly

Producers must utilize proper vaccination techniques for vaccines and antibiotics to work properly. Beef Quality Assurance guidelines should be observed when administering these products. It may take extra time to ensure a procedure is done correctly, but those few extra seconds can reduce the risk of blemishes and promote the production of a quality product. Blemishes in the carcass caused by rough handling, bruising or incorrect product application must be trimmed out as unmarketable. These trim-outs lose money for the packer, feedlot operator and eventually the producer. This means that all injections must be given in the neck (Figure 1).



[www.picknproducts.org](http://www.picknproducts.org)

All injections should be given using an 18-gauge needle. For subcutaneous (Sub-Q) injections, the needle length should be  $\frac{1}{2}$  to  $\frac{3}{4}$  inch long, while a needle that is 1 to  $1\frac{1}{2}$  inch is needed for an intramuscular injection. Needles should be replaced after every 10 to 15 injections,

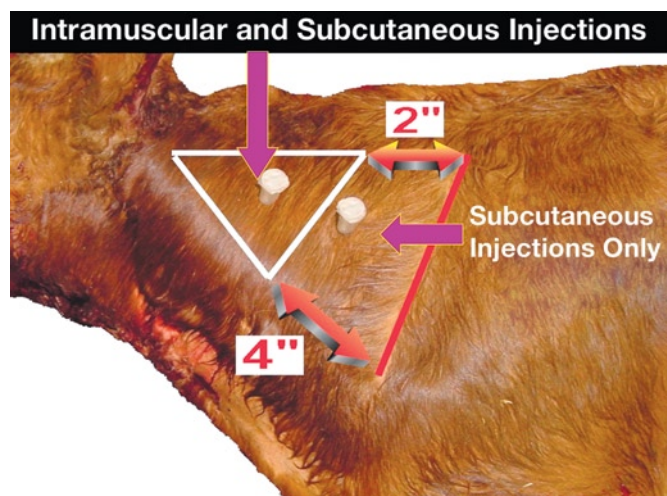


Figure 1. Locations for giving injections.

since they become dull with use. If a needle is accidentally bent, it should not be straightened and reused. Needles that have been bent are more likely to break. Care should be taken to be sure that the correct dosage is given. Read the product label to determine the proper dosage. Be sure that the vaccine or antibiotic is properly mixed by rolling the bottle between your hands. Do not shake the bottle. Be sure to get all air bubbles out of the syringe to insure correct dosage. If a modified live vaccine is being used, only mix the amount of product that can be used in 30 minutes to one hour. Mark the syringe and bottle the same so that syringes are not accidentally used with other products.

Always select the best route to administer vaccines and medications. Read and follow product label. If given a choice between subcutaneous (Sub-Q) and intramuscular (IM), administer the product Sub-Q, since this will cause less tissue damage. When giving a shot Sub-Q, utilize the “tenting method.” Pull the skin away from the neck to make sure the injection goes underneath the skin. Be careful to avoid directing the needle toward your fingers.

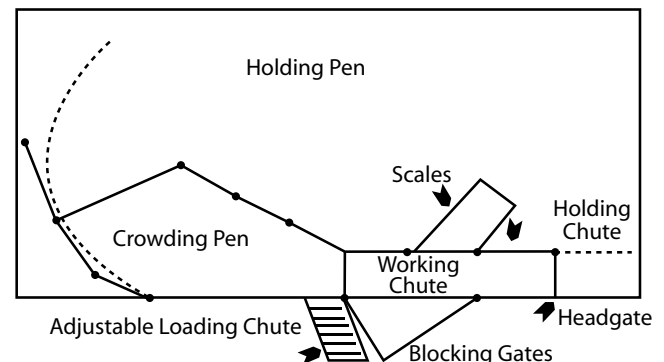
Do not mix vaccines to reduce the number of injections given. Mixing two different vaccines will not produce one that will protect against both diseases. Mixing unlike products can destroy the effectiveness of both products. If the vaccine combination you need is not available, give the individual vaccines as separate injections at least 5 inches apart.

Mark and separate syringes. Use different syringes for live vaccines and bacterins, or killed products. Mark the modified live syringes and keep separate from others. If traces of bacterin are left in a syringe that is later used for a modified live product, the bacterin could destroy the modified live vaccine.

Use transfer needles to reconstitute products such as modified live vaccines. Using a transfer needle makes the process easier and more sanitary. To use a transfer needle, first stick one end into the sterile liquid or diluent. The other end of the transfer needle goes into the freeze-dried cake of bacterin or vaccine. There should be a vacuum to pull the liquid immediately into the vial containing the bacterin. If this vacuum does not exist, discard the vaccine, because it may be contaminated.

Good sanitation is essential to minimizing the risk of spreading infection, contaminating vaccines or causing injection-site reactions. Be sure to use separate needles for filling the syringes and injecting the animals. Change needles frequently. Needles should be changed with use of each full syringe, or every 10 to 15 injections. Replace burred or bent needles immediately. A burred or bent needle will cause greater tissue damage when entering the animal, increasing the risk for the entrance of foreign matter. Disposable syringes are recommended over multi-dose syringes. Sterilize syringes and needles properly. Use only boiling water or autoclave to clean syringes to be used for modified live virus vaccines. Even a trace of disinfectant can inactivate a modified live vaccine. **DO NOT** use a disinfectant with syringes and needles used to administer a modified live vaccine. Make sure the injection site is clean and free of mud and manure. Also try to avoid injecting into damp or wet cattle.

For vaccines to produce the desired level of immunity, it is critical that animals be handled in a low-stress manner. High stress levels when working cattle results in the release of hormones in the animals' bodies that do not allow vaccines to work properly. Good handling facilities are essential. One of the big factors in the design of facilities is having the chute a maximum of 26 inches wide. A wide chute allows too much animal movement and also the risk of animals turning around in the chute. A facility that allows for the easy flow of animals is desirable. An example is shown in Figure 2.



**Figure 2. Sample layout of beef cattle-handling facility.**

The use of “hot sticks” should be kept to a minimum. The shock that an animal receives will result in the animal getting excited and releasing “stress hormones” that interfere with proper vaccine function. Rough handling also causes bruising that reduces overall meat quality.

Recommended procedures for performing other practices such as implanting, deworming, castration, etc. can be found in other publications in this series.

In summary, producers need to follow recommended practices when administering animal-health products. The extra care allows more effective use of vaccines and medications while producing a more desirable carcass.

Producers planning to purchase a squeeze chute or other handling-facility components may apply for a cost share through the Tennessee Agricultural Enhancement Program administered by the Tennessee Department of Agriculture. Premise identification and Beef Quality Assurance certification are prerequisites for applying for the funds. Approval of the request must be received before items are purchased.

The National Animal Identification program is designed to provide the capability of tracing an animal back to its point of origin within a 48-hour period of time in the case of an animal-disease outbreak. It is also supposed to identify all locations where an animal has been during its lifetime. The mechanism for tracing requires that every location (premise) where animals reside must be identified (for example: owner's farm, livestock market, order-buyer lot, fairs, shows, veterinary clinics, etc). Each animal must be individually identified with some type of electronic identification (i.e., electronic ear tags, electronic implants or similar devices). Registration of premises is currently being conducted. Premise registration forms are available at local Extension offices, Farm Bureau offices, local Farmers Cooperative stores and Farm Service Agency offices. Premise identification and individual animal identification are now voluntary except for participation in Tennessee Agricultural Enhancement programs. It is anticipated that participation in the premise and individual animal identification programs will increase as information provided by these programs is needed to market animals.

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