Small ruminant producers can suffer significant financial losses as a result of injection site blemishes within the meat area of animals. Meat processors or buyers may reject entire animal carcasses or reduce prices paid because of meat areas that appear damaged and non-food safe.

The list below describes recommended practices that can reduce or prevent blemish product losses. These best management practices (BMP) are vital components of meat quality assurance.

- **Choose the correct injection site.**
  Give injections in one of two locations: (1) just behind the front shoulder, along the rib cage; or (2) on the neck, in front of front shoulder, down from the ear, and between the top and bottom of the neck at the midpoint. Stay away from the hindquarters where the highest value meat is located (See figures 1-3).

- **Stay away from muscle.**
  When possible, use the subcutaneous (under the skin) injection site method rather than the intramuscular (in the muscle) method.

- **Use the proper technique.**
  Remove trapped air from syringe and needle before inserting. Make sure the needle and syringe are at an angle before inserting. Inserting the needle at an angle may reduce tissue damage and injection blemishes.

- **Use multiple injection sites.**
  Never make multiple injections in one site. Try to space injection sites apart by one or more inches.

- **Use the correct size needles.**
  Use smaller needles for subcutaneous shots. A 20-gauge, 3/4-inch needle is ideal for most medicines.
• Avoid using the same needle on different animals.
  Try to use a new needle for each animal to prevent cross-contamination. If you must recycle needles, sterilize them with rubbing alcohol and make sure they do not become too dull. Use a hazardous waste carton to dispose of dull needles. Remember that new needles are inexpensive compared to the potential financial losses from injection site blemishes.

• Keep equipment clean.
  Wash syringes with warm, soapy water between uses. Rinse in cool water and allow them to dry before reusing. Make sure increment measurements are still legible.

• Know the product and carefully follow label instructions.
  Read all medicine labels to learn relevant information. This information will include purpose of product, timing, safety issues, expiration date, dosage, and withdrawal time. The metabolism rate of goats is about five times faster than that of cattle. Avoid giving animals excess medications. Misuse of medications can compromise the effectiveness of medicines over time. Be sure to discard medications with expired use dates and store as recommended on the label.

• Avoid combining medications used for injections.
  Combining medications may cause tissue damage and reduce effectiveness of application.

• Keep records for each animal.
  Record all information relevant to each situation when injections are given, such as suspected ailment, product used, dosage per individual animal, frequency of treatment, and name or identification number of each animal treated.

By following these practices, you can accomplish the following:

• Decrease injection site blemishes.
• Reduce the chance for potential losses resulting from damaged meat products.
• Create an awareness of meat quality control.
• Increase the opportunity for higher profits.
• Provide a document of BMPs to verify a quality product.
• Take pride in a quality product!

Avoiding injection site blemishes is just one aspect of meat quality assurance. Following BMPs enhances the opportunity of increased incomes for farmers and ensures the likelihood of a safe food product for consumers. Meat quality assurance programs create win-win situations for sellers, buyers, processors, and consumers.