

Injections

Getting The Most From Them

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How to ensure a job well done.

You've seen how product handling can cost you money and where you can go for more information. This is a quick overview of a number of key handling and administration techniques that will help to ensure drug efficacy is maximized. The more practices you apply the better the success!

Preparing the product to avoid abscesses

- Clean the bottle tops with a small amount of alcohol on a cotton swab or ball.
- Preferably only enter the bottle with a sterile needle. Never re-enter a bottle of injectable medicine with a needle that has already been used for an animal injection.
- Do not leave needles in bottles.
- Store all products according to the label directions.

Handling vaccines to ensure maximum response

- Clean syringes after each usage to avoid contamination. Cleaning chemicals may destroy the live virus and inactivate the vaccine - instead use only hot water for modified-live virus vaccine syringes.

- Label syringes if used in a multi-dose setting where they are not all used at once....and this includes any situation where you may put a filled syringe down and pick up another. During a long and tiring day of processing it's very easy to suddenly get confused and pick up the wrong one.
- Reconstitute only enough modified-live virus vaccine for 1 hour (use transfer needle) – especially if conditions are not ideal (e.g. very hot or very cold.)
- Buy appropriate size bottles for amount of cattle. Although that mega sized bottle is a “deal” it's not when you're using it past its prime and no longer working as it should. Most vaccines are sold as a per dose price regardless of the number of doses.
- Check refrigerator temperatures regularly (2 – 7 °C is ideal for vaccines). For your free handy fridge thermometer contact your VBP coordinator.
- Keep vaccines in a covered cooler with ice/warm water bottles (depending upon outside conditions and product requirements – see label or insert for recommendations.)

VBP Program “Must Do’s” for the SOPs: Animal Health Management & Shipping Cattle

The goal of these 2 SOPs (standard operating procedures) are to minimize the risk of drug residues, antibiotic resistant bacteria and broken needles in cattle. Below is the checklist for the “Must Do” components of these 2 SOPs.

- Store animal health products according to label directions.
 - Record all individual animal or group treatments on a permanent record.
 - Use all products according to label directions, or in the case of extra-label use, according to a written veterinary prescription.
 - Securely restrain cattle to avoid potential bent or broken needles.
 - Make sure syringes and other equipment deliver the intended amount of product.
 - Keep a copy of any written veterinary prescriptions used within the last two years.
 - A records check for all drug withdrawal requirements and broken needles is completed before cattle are shipped to slaughter.
 - The check for drug withdrawal requirements and broken needles is identified in a record including date.
- Some may go a lifetime without every experiencing a drug residue or a suspected broken needle in an animal....but if something were to go wrong, the program asks you to consider:
- If cattle are being shipped or sold other than directly to slaughter, and they have not met their drug withdrawal times, then the next owner is informed.
 - If cattle contain a broken needle, next owner is informed including identification of the animal.
 - If cattle are inadvertently shipped without meeting withdrawal times, next owner or slaughter plant is informed and this contact date/information is recorded.
 - If a broken needle occurs, identify the suspect animal and record on a permanent record. If the animal is being sold, the next owner must be informed of the broken needle in the specific animal.
 - If treating with the wrong product or dosage, identify the animal, record the incidence, contact a veterinarian and record actions taken.

Use clean equipment

- Wherever possible wash your hands before and after handling medicinal products. Dirty bottles are contaminated bottles that work on the dirt and not on the disease intended! (And pass it on when used, creating abscesses.)
- Use disposable syringes whenever possible. For reusable syringes, use only hot water (no soap or detergent) to rinse them before using vaccines.
- Use hot water and mild disinfectants to clean syringes for other types of injectable products (not vaccines) to ensure residues are not left behind that can cause adverse reactions or product failures.
- Label those cleaned with disinfectants to ensure they aren't accidentally used later with vaccines.

Changing needles

- Occasionally the same needle may be used for multiple injections (i.e., when giving many doses in a short period of time, such as with vaccine products at branding). If doing so change the needle frequently (i.e. every 10-15 animals) watching for burrs to avoid scarring.
- Always change the needle before going back into the bottle.
- Never straighten bent needles as they are prone to breaking and getting lost in the animal.

Choose appropriate sized needles and volumes per site

- Choose needles of the correct length for the type of injection and size of animal being injected. Shorter needles (5/8 - 1.0 in.) can

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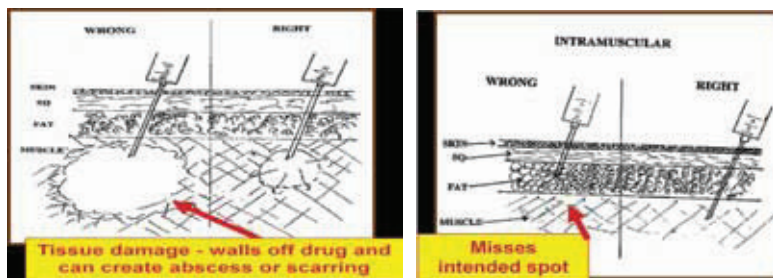
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be used for subcutaneous injections; longer ones (1.5 in.) for intra-muscular injections.

- Calves have thinner skin and smaller muscle mass so use a smaller needle (0.5 for SQ and 1.0 for IM).
- Choose the smallest needle size (diameter) that is reasonable to use for the product type and volume to be injected. This will minimize tissue damage and reduce leakage of the product from the injection site. (As needle gauge increases, needle diameter decreases.)
- Follow recommended volumes per site to minimize tissue damage as withdrawal / response times can be affected.

Detectable needles

- Research results from Ag Canada’s Lacombe Research Station showed detection rates for conventional needles are 0 to 8%, while detectable needles are 93 to 100%.
- Detectable needles compared to non-detectable needles of the same quality, usually cost the same or very close to the same.

Multi-dose syringes

- If possible, always use the same syringe for the same product or type of products to avoid cross contamination, potentially causing drug reactions or residues.
- Test reusable syringes for accuracy on all settings by:
 1. filling the syringe to capacity with water and check the accuracy of each dose e.g. a 50 cc’s volume syringe – set it for 10 cc injections and see if after 5 if you have any left and if the 5th one was “short” or some remained; or,
 2. repeat the earlier process only squirt each “dose” into a syringe with the plunger removed. Look at each dose to see if it fills the syringe to the appropriate mark.

Restraining animals properly

- Prevents injury to you and the animal, and ensures that the product goes where you intend it to go.
- Better restraint, prevents needles from breaking off at the hub when the animal moves suddenly, as well as minimizes the risk of accidental self-injection. Also allows good views of injection sites.
- Food Safety Systems Implementation fund offered through ARDCorp will provide up to \$3,000 towards the purchase of a chute with a neck extension. (Go to www.ardcorp.ca for more information and eligibility requirements.)

Mixing products

- Do not combine vaccines or products in the same bottle or syringe unless the label clearly states to do so. Mixing can adversely affect the products by changing the pH, the chemical composition, or by causing components of the drug to precipitate out of solution.
- Shake (gently) or agitate (rolling) products as per the label instructions before reconstituting and before filling syringes to prevent settling out. Don’t do this if it’s not specified on the product label as it may create air bubbles that will impact accuracy of dosage volumes.

Injection techniques

Intramuscular (IM)

- Always where possible, choose muscle tissue in the neck area instead of the hip where it’s of lesser value to consumers.
- Unless instructed differently by the label or your vet, give IM injections deep into a muscle. Use a needle long enough to penetrate skin, subcutaneous tissue and fat to reach the muscle. The needle should enter the skin perpendicular to the skin surface.

Subcutaneous (SQ)

- Generally, choose SQ route when given a choice of either IM or SQ on the product label as it will reduce the risk of damaging the tissue and future eating experience.
- Give SQ injections half way up the neck in front of the shoulder using a 1 inch long needle.
- Injection method: Lift a fold of skin to make a skin “tent”. Insert the needle through one side of the tent at an angle of 30 to 45 degrees relative to the surface of the body.
- Beware of products that are potentially hazardous to your health (see the label) and use the one handed method in these situations: using a short needle, pierce the skin and using the length of the needle pivoting the needle under the skin angling the needle so it can freely move under the skin, and is parallel to the body.

Multiple Injections

- Choose different injection sites on the body (e.g. opposite sides of the neck) when repeating treatments over a number of days to avoid inflammation and improve product absorption.
- To repeat injections within a region, place repeat

injections at least four inches, or one hand width from a previous injection site.

Storage and Transport

- Store according to label instructions.
- Use a cooler (adding a hot/cold water bottle as needed) to transport and at the chute or treatment location. This will ensure the product does not over heat or freeze as well as help to keep the product clean. Check the label for safe storage temperature ranges.
- Don't mix up more than you can use and dispose of outdated drugs or ones that have been damaged by heat or cold.

Keep Records

- Note animals treated (animal ID), date(s) treated, product used, withdrawal time and route given.
- If treated extra label have on hand for easy referral and verification, the information on a vet prescription.
- Records will help you observe trends in product / methodology successes and failures and ensure residues are avoided.
- At shipping remember that when you sell animals if they injure themselves on route they may require emergency slaughter so always send with the animal any treatment information on outstanding withdrawals.

Bottom line - improving product handling and storage will:

1. Maximize efficacy of the product used
2. Reduce risk of drug residues
3. Reduce risk of antibiotic resistance
4. Reduce risk of broken needles, and,
5. Improve profits overall and maintain your reputation for producing a product that ensures a wonderful eating experience.

VBP TIPS

LOST LABEL INFORMATION

Animal health product labels and product inserts sometimes are lost or become worn and unreadable. To find this label information on the web :

- Pesticide Products - do a Google Search for "Pest Management Regulatory Agency" and choose "pesticide label search"
- Animal Health Products - go to the national VBP website www.verifiedbeef.org and in the bottom right hand corner under "Quick Links" choose veterinary products.

Testimonial



Trevor and Janice Tapp -- Copper-T Ranch, Fraser Lake, BC

"We have been involved in VBP for six years and find it to be one of the best programs we are involved in with very useful tools like the VBP binder. We can easily check the health history of an animal, see whether an animal has cost extra in vet supplies, or look up shipping records. VBP was not a lot of work to put into practice, many of the practices are already

done on a ranch and implementation has made work easier in the long run. We have farm gate meat sales and our customers appreciate that the Verified Beef Program gives one more assurance that they are getting good quality meat. We think the VBP is an easy way to prove due diligence. We believe in the Verified Beef Program, appreciate what it does for our ranch and would encourage others to complete the requirements and to enroll." (July 2011)

Walt and Carol Foster, Sand Creek Ranch, Tatla Lake, BC

"As a VBP registered operation, we feel we've been getting the high end of the market with our auction calves and our private value added beef sales. In the market introduction we always include in our product description the fact that we are a registered VBP member. We feel it adds competition in the bidding plus it gives our

cattle a notable qualification that sets them apart from others competing for the best prices. We also feel it helps our ranch recognition and in combination with the Environmental Farm Plan promotes the positive image which gives confidence in and legitimizes our operation and our reputation. We are confident the steps we take contribute to the highest quality food products consumers expect and deserve." (Nov. 2010)

