



Agriculture

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Bovine Core Vaccination Guidelines

Rosslyn Biggs, DVM, Oklahoma State University State Extension Beef Veterinarian

The American Association of Bovine Practitioners (AABP) provides guidance to their membership on vaccination guidelines identifying core vaccine for all cattle. The establishment of bovine core vaccines was created based on the major infectious agents that require protection in all types of cattle. The list is in no way permanent and will be regularly reviewed. Future changes to core vaccine recommendations may occur based on new scientific research, veterinary feedback, and evolving production practices. Veterinarians and producers alike are required to follow applicable federal and state regulatory regulations.

The core guidelines help establish a set of minimum requirements, however, there is no one-size-fits-all vaccination plan applicable to every farm and ranch. Specific, unique operation or herd vaccination plans, established by producers and veterinarians, insure the development of the best herd protection. A specific vaccination plan will be based on factors such as animal immune status, disease risk, biosecurity, and management availability. The best vaccine options will be those that provide protective immune coverage for diseases of concern balanced with a defined management timeline and expense.

The following bovine vaccines are considered core vaccines according to AABP guidelines for all beef and dairy cattle:

- Infectious Bovine Rhinotracheitis virus (IBRV) (Bovine herpesvirus 1)
- Bovine Viral Diarrhea Virus (BVDV)
- Parainfluenza Virus (PI3)
- Bovine Respiratory Syncytial Virus (BRSV)
- Clostridial Vaccines (*C. hemolyticum* and *tetani* are not considered core, but are considered risk-based)

The AABP guidance also outlines vaccines that should be evaluated for inclusion into operation specific vaccination protocols based on risk of disease and benefits of vaccination. Cattle type, disease risk, operation location, biosecurity practices, and herd history are all factors considered when evaluating risk based agents such as *Brucella abortus* (Bangs) and *Mannheimia haemolytica*.

Producers are encouraged to sit down with their veterinarian and discuss vaccination protocols on a regular basis. The AABP vaccination guidelines are intended to help with this conversation. Specific, unique vaccination protocols customized to the operation, and even further to individual types of cattle on the farm or ranch, provide the best immunization coverage. When designing a plan, remember to include a periodic review schedule. Update the plan regularly with your veterinarian to take advantage of new scientific findings and economic solutions as disease threats continue to evolve.

Rosslyn Biggs, DVM, OSU Extension beef cattle specialist, takes an in-depth look at handling and administering vaccines. This segments originally aired Jan. 22, 2022. <https://www.youtube.com/watch?v=gKfw-DXs4ss&t=51s>

SAVE THE DATES

Benefits of Dealing with Invasive Species September 27, 2023

Panhandle Cattle Women's College October 4 & 5, 2023

The Importance of Hay Moisture

Paul Vining, OSU Department of Animal and Food Sciences Graduate Research Assistant

Cutting and baling hay sometimes becomes a “hurry up and wait” process, while waiting on passing rain showers. Hay should be baled when it has dried to the point of containing approximately 14-18% moisture. Baling hay that contains elevated moisture may lead to an excessive amount of heat and possibly combustion then fire. Excessive moisture content allows for increased growth of bacteria and fungi. The presence of oxygen causes these microorganisms to go through chemical reactions which release heat. This continuous heat release increases hay bale temperature, which causes a risk of combustion and the possibility of fire. Even when fire is avoided excessive moisture content will cause a substantial loss of dry matter and decrease hay quality.

Hay Temperature and Fire Risk

If hay must be baled during unfavorable conditions a hay thermometer (36-inch compost thermometer) is a useful tool for measuring hay bale temperature. If hay reaches an internal temperature of approximately 135°F, it is recommended to remove it from the barn. For these suspect bales, check the temperature twice per day and do not place the bales back inside the barn until the temperature has fallen to at least 120°F.

Increased Hay Moisture Content Leads to Decreased Hay Quality Elevated hay moisture levels (>18%) will decrease hay quality. Hay bales go through a “sweat” following cutting and baling. During this period heat is generated by the increased activity of microorganisms that consume forage sugar and starch. Increased hay moisture content allows for an increase in microbial activity, leading to greater consumption of forage nutrients and a reduction in forage quality. A study conducted at the University of Kentucky evaluated the daily hay temperature and ambient temperatures of two cuttings of alfalfa. The fall cutting was baled at 20% moisture and the spring cutting was baled at 16% moisture. The spring cutting, baled at 16% moisture slowly increased in temperature for 20 days after baling but never reached 120°F. The fall cutting (20% moisture) spiked to 140°F 3 days after baling and returned to a baseline temperature around day 8. The initial spike in temperature for the fall cutting due to increased moisture content would have caused a reduction in forage quality. Hay does not have to be bone dry to make quality hay without risk of hay fire or heat damage to nutritive quality. Baling excessively dry hay makes bales with low density and contributes to loss of leaves and quality losses. But when moisture is too high, spontaneous heating is problematic for hay quality and risk of hay fires.

Reference

Hancock, D.W. 2012. HAY MOISTURE: HOW DRY IS DRY ENOUGH? Hay & Forage Grower. The University of Georgia. <https://georgiaforages.caes.uga.edu><https://georgiaforages.caes.uga.edu/HFG1306>



Drip Irrigation System Great for Container Gardening

By David Hillock

One of the great things about gardening is anyone can do it. Gardening doesn't require a great expanse of land. In fact, those with very little space can still have a successful gardening experience. Container gardening is a great way to grow some flowers, or even vegetables. It's fun, easy, and rewarding.

However, keeping the containers properly watered throughout the sweltering Oklahoma summer can be a bit of a challenge. During the hottest parts of the summer, they often dry out before you get home from work. When you go on vacation, you must find someone to water them for you.

A simple solution to this dilemma is using an inexpensive drip irrigation system and automatic control valve. These irrigation systems can be bought at many home improvement stores, garden centers and nurseries. Kits are available from some manufacturers that contain everything needed to install a drip system to your outdoor faucet, including tubing, stakes with adjustable emitters, backflow prevention device, t-connectors, and fasteners to secure the tubing. Purchase an automatic control valve that's programmable, which allows you to set the water to come on and off as needed and run as long as needed. This type of system also helps conserve water since the water is directed into the containers and there's little to no waste from overspray, which can happen with traditional sprinklers.

In addition to the drip irrigation kit, purchase a Y valve to hook up to the faucet. This allows you to attach the controller for the drip system, as well as a garden hose for other purposes.

For gardeners who have more space for planting in a traditional landscape, larger drip irrigation systems are available too.

These systems are very easy to install. In fact, the only tool needed is scissors or a sharp knife to cut the tubing to the proper lengths. Now you can set the system to come on and off while you are away on vacation, and you won't have to worry about whether your containers get watered. It's easy, inexpensive, and efficient. In the long run gardeners will save time and money. And as a bonus, your plants will be happy, too.

Insect Hotel

Check out the Article on page 3.



Cattle Working Facilities

Mark Z. Johnson, Oklahoma State University Extension Beef Cattle Breeding Specialist

For many spring calving herds, branding and working calves is soon approaching. Typical best management practices includes giving the first round of vaccinations when calves are 2 – 4 months of age. This is often when we think about facilities, either improving what we have or building something new because cattle handling can be time consuming and complicated. Because of this it is important that corrals and facilities are constructed to confine cattle safely and efficiently for close observation and to perform routine health and management procedures. To accomplish these goals, the corral and working facility design must be matched to the specific beef cattle operation. Detailed planning is important to ensure that the corral and working facility meet these needs as well as providing for efficient future expansion. As well, an important consideration during planning is to develop a design that accommodates your desired cattle working procedures while making efficient use of labor, reducing animal stress and minimizing the risk of injury to both humans and cattle.

Basic Components

The basic components of a cattle working facility include:

1. Holding pens/Sorting alley
2. Crowding area (Sweep Tub or Bud Box)
3. Working Chute (Alleyway)
4. Squeeze chute and head gate

Loadout chute

The holding/sorting pens serve as the initial catch pens for cattle. Cattle are then sorted and processed to a crowding area for purpose of sending through an alleyway leading to a loadout chute or squeeze chute and head catch. The squeeze chute is the part of the system where health and management procedures would be administered.

Cattle Behavior

Efficient corral design results in a means to work cattle with less labor, additional safety and greater ease. When cattle behavior is considered in designing a working system, it results in improved corral and working system plans. Several basic principles of cattle behavior include:

1. Cattle want to see you
2. Cattle want to go around you
3. Cattle want to be with other cattle
4. Cattle want to return to where they have been

Cattle process one main thought at a time

Accordingly, once the gate has been closed on a group of cattle being held in a lot, their first and strongest desire is to find their way out. Understanding basic behavior principles results in good corral designs made to take advantage of cattle's natural instincts.

Location

If building from scratch, the first consideration is location. Corrals should be easily accessible by trucks and trailers under adverse weather conditions and handy to most pastures for easy movement of cattle into the facilities. For convenience, working facilities should be placed along a central fence line in an area where several fence lines and pastures converge. Drainage is another important consideration when selecting a site for working facilities. The site should be well drained to avoid mud and sanitation problems caused by standing water. On some sites, it may be best to haul in gravel or other fill materials to raise the level of the site for better drainage. While some slope is desirable, avoid steep slopes where manure runoff could cause water pollution problems. Avoid sites that are directly adjacent to neighboring residences, where dust, flies, noise, and odor might be an issue during times of high use.

Summary

A properly designed cattle working system is a long-term investment that should be thoroughly considered and planned before construction. Proper planning can result in a facility well suited for your operation and free of "built-in" problems. A good working system benefits cattle and humans alike, and can improve the productivity and profit potential of your operation. Some excellent reference materials are listed below to help get started in planning and thinking through the building process.

References:

A.J. Tarpoff, et. al., Designing a Bud Box for Cattle Handling, Kansas State University Agricultural Experiment Station and Cooperative Extension Service.

Ken Apple, Raymond L. Huhnke and Sam Harp. Modern Corral Design. Oklahoma State University Cooperative Extension Service.

Insect Hotels: Good Bugs Check In and They Check Out

David Hillock

The week of June 19-25 is **Pollinator Week**, an annual celebration in support of pollinator health that was initiated and is managed by Pollinator Partnership. Pollinator week is a time to raise awareness for pollinators and spread the word about what we can do to protect them.

Less than 1% of all insect species on planet Earth are considered pests (i.e., those that compete with us for food and fiber or cause us harm). So, what about the other 99%? They either serve as an important food source for vertebrate predators or they benefit us directly.

A couple of these insect-derived benefits include pollination and natural pest control. Every gardener and farmer appreciate these important ecological services as their crops, and livelihood, often depend on them. There are myriad strategies available to conserve these "good guys" in our landscapes, ranging from polycultural plantings of mixed crops to modified (reduced) pesticide use (see OCES publication E-1023: Conserving Beneficial Arthropods in Residential Landscapes). Here, I will focus on one conservation technique for home gardeners that integrate science and art: insect hotels.

Insect hotels are simple structures that provide shelter to a wide variety of beneficial arthropods, including bees, wasps, lady beetles, and spiders. These bug-friendly structures are often constructed from scraps of wood, brick, bamboo, plant pots, and other leftover landscaping/gardening materials. Gardeners can tap their creative energy and design insect hotels to be aesthetically pleasing and tailored to their landscape. Beneficial arthropods are attracted to insect hotels because they require shelter for nesting or overwintering. Thus, the design of insect hotels should accommodate these requirements.

Native pollinators such as solitary bees and wasps require nesting sites that are often lacking in well-manicured lawns and landscapes. To attract these beneficials, insect hotels should have lots of nooks and crannies with deep recesses. These nesting sites can be created from stacked bamboo, old pots, masonry, and wood pieces drilled with holes of various diameters. Spiders, lady beetles, and other predators require hiding places and/or overwintering sites, which can be provided by adding straw, fallen leaves, pine cones, and sticks. There are a lot of fun and clever ideas on the internet when it comes to designing an insect hotel. Hopefully they will inspire you to repurpose old scraps, landscaping material, and yard waste lying around your home to construct your own insect hotel!

For more information about conserving native pollinators, including bumble bees, visit the University of Florida's "Native Buzz" project page (see references below). Also, information about specific nesting requirements and do-it-yourself bee boxes can be found by visiting the website of the Xerces Society for Invertebrate Conservation (see references below)

References

Anonymous. Nests for Native Bees. Invertebrate Conservation Fact Sheet. Xerces Society for Invertebrate Conservation.

http://www.xerces.org/wp-content/uploads/2008/11/nests_for_native_bees_fact_sheet_xerces_society.pdf

Rebek, E.J. and A.M. Berro. E-1023: Conserving Beneficial Arthropods in Residential Landscapes. OCES, <http://pods.dasn.okstate.edu/docushare/dsweb/Get/Document-7426/E-1023.pdf>

University of Florida. Native Buzz Citizen Science website. Honey Bee Research and Extension Lab. <http://entomology.ifas.ufl.edu/ellis/nativebuzz/default.aspx>

(Article originally published in e-Pest Alerts, Vol. 14, No. 9 ... Mar 23, 2015 <http://entopl.okstate.edu/pddl/pddl/2015/PA14-9.pdf>)



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EXTENSION

NOTE FROM KEVIN SHELTON; Pesticide Coordinator, Pesticide Safety Education program

July is right around the corner and I wanted to remind everybody that the Oklahoma Department of Agriculture, Food and Forestry (ODAFF) will start recertification of Private Applicators on July 1st. All Private Applicators who have chosen to retest or those that did not get their required number of CEU's for this cycle may retest beginning July 1st, 2023.

All current Private Applicators are certified through December 31st of this year. ODAFF should be sending out letters and e-mails to all current applicators explaining this process. If you are close to getting your CEU's, please do not wait till the last minute to get those final CEU's. If you are not sure please contact Loren or Connie at the Beaver Extension Office @ 580-625-3464.

If you are going to retest, I would recommend that you retest as soon after July 1st as possible. If everybody waits till the last minute, the testing centers will not be able to accommodate that many applicators in December.

Please remember that the early retesting date is for Private Applicators only. All other commercial and non-commercial applicators (Ag Plant, Aerial, Structural, Demonstration & Research) who need to retest this year, must wait till they are notified by ODAFF. Their retesting date will begin on September 1st.

As always, recertification by CEU's is not mandatory, it is one way to recertify, the other is to retest. Applicators have never been required to get CEU's, it is their choice.

BEAVER COUNTY FAIR

August 22-26, 2023

Beaver County Fairgrounds

Antique Tractor Pull
Rodeo
BBQ Cook Off

Chuckwagon Meal
COW CHIP THROW
Kid Coke Can Throw

TOPICS FOUND ON THE OSU EXTENSION AG WEBSITE

LIVESTOCK

Beef Cattle
Dairy Cattle
Goats
Pigs, Hogs & Swine
Poultry
Sheep

PASTURES & FORAGE

Alfalfa
Forage
Forage Grasses
Hay
Pastures
Rangeland Management

Click on the category you are interested and the website will open.

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