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Managing Purchased Bulls

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Biosecurity

Consider Biosecurity Measures Carefully

Biosecurity and livestock stewardship remain important as the pressures of efficient production, food safety and quality, and international trade concerns increase. The first step in a biosecurity program is knowing where your seedstock comes from and what they have been exposed to. If purchasing bulls from an unknown source, increased biosecurity measures will be necessary.

The cost-effectiveness of biosecurity measures should be considered carefully and discussed with a veterinarian. The risk of introducing disease and/or pests, the cost once introduced into a herd, the cost of biosecurity measures and the amount of risk producers are willing to live with will determine the biosecurity measures utilized for their operation.

4 Components: Quarantining, Testing, Vaccination, Sanitation

Quarantining incoming cattle is one management practice that decreases the likelihood of certain diseases and/or pests being introduced to the herd. Quarantining means keeping a distance barrier between incoming cattle and the established herd for a period of time.

The quarantine area should be set up so that new arrivals are at least 6 feet apart from other animals and do not share feed or water with the established herd. Ideally, new bulls should be quarantined for 30 days, with two weeks being the minimum.

Examination and testing of purchased cattle help decrease the risk of introducing disease and/or pests into a herd. The two most common tests for sires are for Trichomoniasis and BVDV. Remember that disease testing is not 100% effective, and the sensitivity and specificity of the test should be considered when testing potential herd additions.

Vaccination of the resident herd and purchased animals is another way to manage the risk of mixing cattle. Vaccination is an important and common tool in biosecurity. Typical vaccine protocols include protection against IBR, BRSV, P13, BVDV, *Leptospirosis* and *Campylobacteriosis* (vibriosis).

Vaccination alone does not guarantee protection. Even under optimal conditions, not all cattle will respond to vaccination, nor will all that respond to vaccination be protected from infection. Producers should work with their herd veterinarians to develop a comprehensive herd health plan.

Sanitation involves protecting herds year-round from exposure to infectious agents. Sanitation practices may involve requiring all visitors, including veterinarians, sale attendees, nutritionists and other service personnel, to wear clean boots and coveralls. Shared equipment must be thoroughly cleaned and sanitized from one herd to the next and, ideally, from one animal to another as well.

Breeding Season Checklist

Body Condition and Breeding Soundness

- Bulls should have a body condition score (BCS) of 5.5 to 6.5 prior to breeding
 - BCS on a scale from 1 to 9:
 - Score 5 - moderate
 - Score 6 - high moderate
- Examine bull 60 days prior to turnout:
 - Soundness – check feet and legs, and vision in both eyes
 - Reproductive soundness
 - Breeding soundness and physical exam should be conducted by a veterinarian
 - Semen testing
 - Scrotal circumference
 - Visual exam of reproductive anatomy
 - Rectal palpation of accessory sex glands
 - Visual examination of feet, legs and eyes

Parasite and Infectious Disease Management

- Deworming for internal and treatment for external parasites
- Vaccinations
 - Consult your veterinarian for vaccine recommendations

Records

- Keep up-to-date records on all bulls to allow for quick evaluation of potential issues that may occur
 - Records to obtain for purchased bulls:
 - Test results: BSE, Trichomoniasis, BVDV, Johnes
 - Vaccination
 - EID, if any
 - Antiparasite and fly control products used
 - Pedigree or registration number
 - Expected progeny differences (EPDs)
 - DNA (if available) including genetic defect carrier status, parentage (if applicable)
 - Feed records
 - Type of diet
 - Nutritional analysis

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Step-down Nutrition After the Sale

Most young bulls are developed on high-energy diets to meet genetic growth potential. The gradual transition of a purchased bull from a concentrate to a forage-based diet is critical. Bulls that are turned out on pasture or placed on hay immediately after the sale can have digestive issues and may lose large amounts of weight prior to and during the breeding season. This weight loss may result in body condition score losses of 1 to 3 points and decreases in fertility and stamina.

Having information about the ration that bulls consumed during development is important. If possible, a similar ration should be utilized after the sale, with gradual changes and reduction in energy content. An example step-down ration would be to start with 80% of previous concentrate intake, then decrease by 10% per week for several weeks until the diet is mostly forage. Aim to have a bull transitioned to a forage-based diet two to three weeks before the start of the breeding season.

Because spermatogenesis requires 61 days for completion, start to step down sire rations around 90 days prior to the breeding season. This will reduce potential negative impacts on sperm production due to over- or undernutrition.

Yearling bulls still should be gaining 1.5 to 2 pounds per day after the sale and prior to breeding. This will require a diet containing about 10% to 11% crude protein (CP) and 60% to 70% TDN, (total digestible nutrients, which is a measure of energy).

If the previous ration is not known, a good idea is to start with high-quality forage (grass or grass-legume blend) and 4 to 6 pounds of grain. Avoid feeding pure alfalfa hay to avoid digestive issues. Bulls also should be provided with a vitamin/mineral supplement.

All feeds and forages should be analyzed for nutrient content at a certified laboratory to make the best use of available feeds. Consult with your local Extension agent or nutritionist for assistance in developing a ration.

Avoid over- and underconditioning of herd sires as both impact spermatogenesis. Bulls should have a **BCS of 5.5 to 6.5** prior to breeding, based on the BCS system for beef cattle from 1 (emaciated) to 9 (excessively fat). Once on pasture, monitor bulls for weight loss or injury that may impact their ability to breed females.

Social Hierarchy

A group of bulls has an established social hierarchy where some sires are more dominant than others. In addition to the biosecurity risk, immediately comingling new sires with existing herd sires creates opportunities for fighting and injury as sires re-establish social hierarchy with the new member(s). News sires should not be turned into a small pen with resident herd sires immediately. Ideally, after the quarantine period, new sires should be managed alongside existing herd sires for several days before being comingled. If not logistically feasible, new sires should be introduced to existing sires in a large pasture without structural hazards, such as panels or windbreaks, to minimize the risk of injury if fighting occurs.



■ **BCS 5:** The 12th and 13th ribs are not visible to the eye unless the animal has been shrunk. The transverse spinous processes can be felt only with firm pressure, and they should feel rounded but not be noticeable to the eye. Spaces between the processes are not visible and are distinguishable only with firm pressure. Areas on each side of the tailhead are starting to fill.

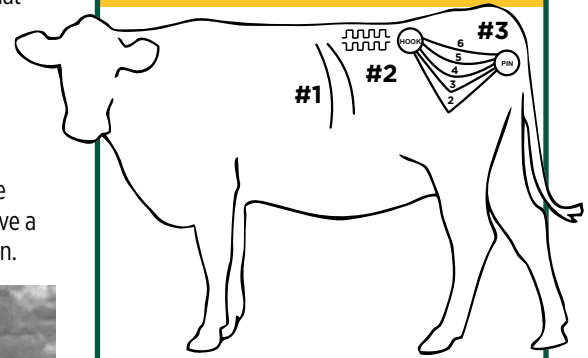


■ **BCS 6:** Ribs are fully covered and are not noticeable to the eye. Hindquarters are plump and full. Springiness is noticeable over the foreribs and on each side of the tailhead. Firm pressure is required to feel the transverse processes. The brisket has some fat.

For related publications on these topics, visit the NDSU website at www.ag.ndsu.edu/extension:

- “Site Visits: Biosecurity Practices for Professionals Working in Animal Agriculture” (NM1551) — <https://www.ndsu.edu/agriculture/extension/publications/site-visits-biosecurity-practices-professionals-working-animal-agriculture>
- “Checklist for Beef Producers” (AS1731) — <https://tinyurl.com/BeefChecklist>

Body Condition Scoring



1. Look at last two ribs
 - Visible: <5
 - Not visible: ≥ 5
2. Spine
 - Visible: ≤ 3
3. Shape between hooks and pins (thurl)
 - Shallow U: BCS 6
 - Strong U: BCS 5
 - V Shape: BCS 4
 - Strong V: BCS 3
 - Very Strong V: BCS 2

U.S. Beef Body Condition Scores:

Range from 1-9

BCS 1: Emaciated, **BCS 9:** Obese

3-Step Body Condition Scoring (BCS)
Guide for Range Cattle (B-1294), Scasta, et al, 2016, University of Wyoming
Extension <http://www.wyoextension.org/publications/html/B1294/>

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