



October 18, 2023

Dear Cattleman or Beef Industry Supporter:

Enclosed is the latest edition of our Off The Hoof Beef Cattle Newsletter with some important information for you.

There are some information sheets included in this mailing for you, which are listed below.

- **Application for Agriculture Exemption Number:** This is the form to fill out and mail to the address on the back if you are interested in getting your tax exemption number for your farm/agriculture purchases. If you have any questions, please feel free to contact the Extension Office, we will be happy to assist in any way.
- **Kentucky Beef Conference:** This will be held in Clark County and does have a \$10.00 fee. This has several interesting topics that will be covered. The Extension Office will be attending this event, if you would like to go please call and sign up at 606 348-8453.
- **Grazing Conference:** This will be held in Lexington on November 1st, 2023, this conference has a lot of valuable information. There is a \$45 cost.

We will send out reminders. Please let us know that you plan to attend so we will know how much food to prepare.

Sincerely,

Glen D. Roberts

UK MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT
KSU COLLEGE OF AGRICULTURE, COMMUNITY AND THE SCIENCES

Wayne County Extension Office | 255 Rolling Hills Blvd. | Monticello KY 42633 | P: 606 348-8453 | F: 606 348-8460 | ca.uky.edu

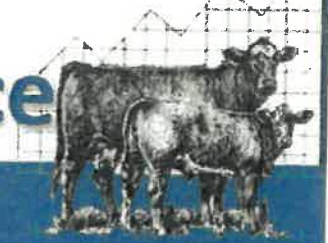
An Equal Opportunity Organization



University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service

"Today's Challenges, Tomorrow's Opportunities"

Kentucky Beef Conference



October 26, 2023

In person

Clark County Extension Office
1400 Fortune Dr
Winchester, Kentucky 40391

9:00—10:00

Registration, visit
sponsors

\$10 registration fee

**RSVP by October 20th
to Clark County
Extension Office
859.744.4682**

10:00—Welcome & Sponsor Recognition

Levi Berg, Clark County Agriculture &
Natural Resources Extension Agent

University of KY Remarks & Welcome

Dr. Scott Radcliffe, UK CAFÉ Animal & Food
Sciences Department Chair

Beef Outlook & Marketing Strategies

Troy Applehans, Cattle-FAX Analyst

11:00— Fecal Egg Count Reduction Test

Dr. Jeff Lehmkuhler, UK Beef Nutrition
Extension Specialist and Dr. Michelle Arnold,
UK Ruminant Extension Veterinarian

11:30— Tools for Beef Producers

Dr. Les Anderson, UK Beef Extension
Specialist

12:00 Lunch

1:00— LRP & Price Risk Protection

Dr. Kenny Burdine, UK Beef Economic
Extension Specialist

2:00—Adjourn

Cooperative
Extension Service

Agriculture and Natural Resources
Family and Consumer Sciences
4-H Youth Development
Community and Economic Development

MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, physical or mental disability or reprisal or retaliation for prior civil rights activity. Reasonable accommodation of disability may be available with prior notice. Program information may be made available in languages other than English.
University of Kentucky, Kentucky State University, U.S. Department of Agriculture, and Kentucky Counties Cooperating.
Lexington, KY 40526



Disability
accommodated
with prior notification.

**APPLICATION FOR AGRICULTURE
EXEMPTION NUMBER**



This application should be filed only by persons regularly engaged in the occupation of tilling and cultivating the soil for the production of crops as a business, regularly engaged in the occupation of raising and feeding livestock of a kind the products of which constitute food for human consumption, raising and feeding poultry, producing milk for sale or regularly engaged in raising ratite birds, llamas, alpacas, buffalos, cervids, or aquatic organisms as an agricultural pursuit.

➤ See additional information on the reverse side.

Name	/				
	Enter Legal Name of Farm or Farm Entity				Phone Number
Mailing Address					
	P.O. Box or Number and Street	City	County	State	Zip Code
Farm Address (If different from above)					
	Number and Street	City	County	State	Zip Code
E-mail Address					
Driver's License Number or Federal Employer Identification Number (FEIN)					
Type of Agricultural Business Activity (Check one or more that apply)	<input type="checkbox"/> Tilling and cultivating the soil for the production of crops as a business. <input type="checkbox"/> Raising and feeding livestock of a kind the products of which constitute food for human consumption. <input type="checkbox"/> Raising and feeding poultry for breeding or egg production. <input type="checkbox"/> Performing dairy operations for the production of milk for sale. <input type="checkbox"/> Raising and feeding ratite birds, llamas, alpacas, buffalos, cervids, or aquatic organisms for the sale of products as an agricultural pursuit.				
	IMPORTANT —Give a detailed explanation of the agricultural activity for which the farmer or farm entity is applying for the Agriculture Exemption Number. (Attach separate sheet if necessary.)				
Verification of Agricultural Business Activity Enclosed (Check all that are enclosed)	<input type="checkbox"/> IRS Schedule F, Profit or Loss from Farming; <input type="checkbox"/> IRS Form 4835, Farm Rental Income and Expenses; <input type="checkbox"/> The farm service agency number (_____); <input type="checkbox"/> Any other type of information that may establish that the applicant qualifies for the Agriculture Exemption Number _____.				

I hereby certify that the above statements are correct to the best of my knowledge and belief and that I am authorized to sign this application. I agree that in the event it is determined that any of the property purchased is not tax-exempt, I will immediately report and pay the required tax measured by the purchase price of this property.

Authorized Signer Name _____ Title _____

Signature _____

Date _____

ADDITIONAL INFORMATION

IF YOUR APPLICATION IS APPROVED

- A letter of authorization will be mailed to you. The letter will contain an Agriculture Exemption Number and instructions to properly claim the exemption on purchases.
- Issuance of the Agriculture Exemption Number does not automatically exempt all purchases. The purchases must still meet the statutory requirements listed on the Farm Exemption Certificate (Form 51A158) or the On-Farm Facilities Certificate of Exemption for Materials, Machinery and Equipment (Form 51A159).
- If the statutory requirements are met, you will be permitted to make purchases of tangible personal property without payment of sales and use tax to the vendor.
- You **MUST** issue a Farm Exemption Certificate (Form 51A158) or the On-Farm Facilities Certificate of Exemption for Materials, Machinery and Equipment (Form 51A159) to each of your vendors using your Agriculture Exemption Number.
- Once an Agriculture Exemption Number has been issued, the Department of Revenue **MUST** be notified promptly of any change in the name, address, or nature of the organization from the information submitted in this application. Please refer to your Agriculture Exemption Number when corresponding with the Department.

Send mail or email the completed application to:

Division of Sales and Use Tax
Department of Revenue
P.O. Box 181
Frankfort, Kentucky 40602-0181
Email: *DOR.Webresponsesalestax@ky.gov*



Grazing Conference

Low Stress Livestock Handling for Serious Graziers

October 31, 2023

Elizabethtown

Hardin County Extension Office

7:30 AM - 3:30 PM CDT

November 1, 2023

Lexington

Fayette County Extension Office

7:30 AM - 3:30 PM EDT



Reducing Livestock Stress in Grazing Systems

Curt Pate, Curt Pate Stockmanship



Fencing for Multi-Species Grazing

Lewis Sapp, Stay-Tuff Fence



Designing Flexible Watering Systems

Jeff Lehmkuhler, University of Kentucky



Designing Livestock Handling Facilities for Existing Structures

Chris McBurney, McBurney Livestock Equipment



Local Producers and Spokesperson Contest



Optimizing Resources with Multi-Species Grazing

Greg Brann, Greg Brann Consulting

For more information please visit KFGC.ORG

Our speakers...

Curt Pate is a nationally renowned expert in low stress livestock handling. His focus on reducing stress in grazing systems makes him unique.

Lewis Sapp is a nationally recognized fencing expert with extensive experience in both temporary and permanent fencing systems.

Jeff Lehmkuhler is an award winning extension educator with more than 20 years of experience in designing flexible watering systems.

Chris McBurney has over 25 years of experience in designing, fabricating, and installing livestock facilities throughout the eastern United States.

Greg Brann is well known for his extensive knowledge of grassland ecosystems, grazing management, and mixed species grazing.

Tickets: \$45 Advance / \$60 Onsite / \$15 Students

Register Online:

Elizabethtown-<https://2023-KY-Grazing-Conference-Hardin>

Lexington-<https://2032-KY-Grazing-Conference-Fayette>

Register by Email: info@kfgc.org

Register by Phone: 513-470-8171

Register by Mail: Christi Forsythe, PO Box 469, Princeton, KY 42445

Make Checks payable to: **KFGC**

Name: _____

Street: _____

City: _____

State: _____ Zip Code: _____

Cell Phone: _____

Email: _____

Number of participants _____ x \$45per participant = _____ Total Amount

Names of additional Participants: _____



The **KENTUCKY**
Forage and Grassland
COUNCIL



Cooperative
Extension Service

OFF THE HOOF

KENTUCKY BEEF CATTLE NEWSLETTER OCTOBER 3, 2023

Published monthly and each article is peer-reviewed by UK Beef Extension Team and edited by Dr. Les Anderson, Department of Animal & Food Science, University of Kentucky

This month's newsletter includes:

Timely Tips – Anderson

Beef Seedstock Symposiums Set for October – Bullock

Fall Grazing Conference to Focus on Low-Stress Livestock Handling- Nielson

The BVD Virus in Cow/Calf Operations Part 2 – How do I Test for BVD Virus? – Arnold

Timely Tips

Dr. Les Anderson, Beef Extension Professor, University of Kentucky

Spring-calving herds

- Schedule a pregnancy examination of cows if not done previously. Winter feeding costs can be minimized by eliminating open cows prior to winterfeeding. Pregnancy status (pregnant versus open) can be determined using palpation, transrectal ultrasonography, or blood sampling. Stage of pregnancy can only be determined by palpation or ultrasonography (performed by your veterinarian). A new chute-side blood sampling kit (Alertys from IDEXX) is available for use. It provides yes/no pregnancy data in 20 minutes for about \$8-10 per cow.
- Evaluate the body condition of your cows and improve their condition prior to winter. It takes about 75 pounds to increase body condition a full score.
- If you have already done a preweaning working, revaccinate (booster) calves as needed. Treat calves for internal and external parasites. If you vaccinate calves yourself, be sure to store, handle, and administer vaccines properly.
- Wean calves before cows lose body condition.
- Obtain weaning weights of your calves and remember weaning is the time to do your first round of culling and selecting breeding stock. You can eliminate obviously inferior calves, especially those with wild or nervous dispositions. Consider the number of heifers that you will need to save for your cow herd. Bulls that are old, unsound, roguish, etc. can be culled now. It is not too early to begin thinking about replacements.

Fall-calving herds

- The calving season should be in full swing for fall-calving cows. Check cows frequently. Identify calves and commercial males should be castrated and implanted.
- Take accurate records of calving and calving performance. Our new app (Stocket at Stocket.us) makes data collection and reporting simple, easy, and convenient.
- Put fall-calving cows on accumulated pasture before the breeding season. Be sure to save some grass in the breeding pastures.
- It is time to get everything ready for the fall-breeding season, too. Line-up semen, supplies, etc. now and get your bulls ready to go (don't forget their breeding soundness evaluation). Breeding

soundness exams are a vital component to reducing the risk of reproductive performance and need to be conducted 30-45 days before EVERY breeding season. Contact your herd veterinarian to schedule the exams.

- Obtain yearling measurements (weight, hip height, scrotal circumference, etc.) on replacement animals - especially for registered ones.
- Contact your herd veterinarian and schedule pelvic area examinations and reproductive tract scores for your potential replacements. Use pelvic area to identify larger heifers with smaller than normal pelvic areas so you can remove them from the breeding pool. Reproductive tract scores can be used to identify immature heifers for culling. Typically, heifers with a reproductive tract score less than 3 have limited ability to conceive early in the breeding season.

Stockers

- If you are purchasing weaned/stressed calves, have your receiving/feeding program in place. Feed a stress ration which contains at least 13% protein and is fairly energy dense.
- Manage to keep newly weaned and/or purchased calves healthy. Calves should be penned in a small lot with adequate feed, water, and shade to reduce stress. Careful handling and comfortable, uncrowded conditions can decrease stress.
- When newly weaned calves are purchased in the fall, sickness and death loss can be a big problem. Work with your veterinarian on a health and receiving program. Consider purchasing CPH-45 feeder calves that are preweaned, vaccinated, bunk-adjusted and treated for parasites.
- Watch calves closely for a few weeks after their arrival. Calves will normally break (get sick) 5-7 days after arrival, but they can break up to 14 days after they arrive. Have a treatment program ready for any health problems. Early recognition of sick cattle improves their chance of recovery. Watch for drooped ears, hollow appearance, reluctance to rise, stiff gait, coughing and dull or sunken eyes. A good “receiving” program is essential to profitability.

General Reminders

- Avoid prussic acid poisoning that can happen when frost ruptures the plant cells in sorghums, sorghum-sudan hybrids, sudangrass, and johnsongrass releasing prussic (hydrocyanic) acid. Fields can be grazed after the plants have dried up after a frost. New growth that occurs in stalk fields is potentially dangerous whether frosted or not.
- Take soil samples for soil analysis to determine pasture fertility needs. Apply phosphate, potash, and lime accordingly.
- Test hay quality and make inventory of hay supplies and needs. Adjust now - buy feed before you run out in the winter.
- Do not harvest or graze alfalfa now in order for it to replenish root reserves.
- Remove fly-control eartags from all animals, dispose of according to instructions on package. Treat for grubs/lice.

Beef Seedstock Symosiums Set for October

Dr. Darrh Bullock, Beef Extension Professor, University of Kentucky

University of Kentucky Beef Extension in partnership with the University of Tennessee Cooperative Extension will be conducting a Beef Seedstock Symposium on October 17 (Fayette County Kentucky Extension Office, Lexington), October 18 (Barron County Kentucky Extension Office, Glasgow) and October 19 (Middle Tennessee AgResearch and Education Center, Spring Hill). This program is specifically designed to assist beef cattle seedstock producers that market bulls to commercial and/or



**Beef Cattle
SEEDSTOCK
SYMPOSIUM**

OCTOBER 17
Fayette County Kentucky
Extension Office, Lexington,
KY
8:30 AM - 3:30 PM

To register for the Lexington, KY event please go to <https://www.eventbrite.com/e/709667262887?aff=oddtcreator>

OCTOBER 18
Barren County Kentucky
Extension Office, Glasgow,
KY
8:30 AM - 3:30 PM

To register for the Glasgow, KY event please go to <https://www.eventbrite.com/e/709673651997?aff=oddtcreator>

OCTOBER 19
Middle Tennessee
AgResearch and Education
Center, Spring Hill, TN
8:30 AM - 3:30 PM

To register for Spring Hill, TN event please go to <https://www.eventbrite.com/e/709676941837?aff=oddtcreator>

Eventbrite will have more information for each location.

MORE INFORMATION
This program is designed for seedstock producers that are marketing bulls to commercial and/or other seedstock producers. The cost for each location is \$25.

QUESTIONS
If you have any questions or would like a paper registration email Maggie.Ginn@uky.edu.




**Beef Cattle
Seedstock Symposium**

October 17-19, 2023

8:30 - Registration

8:50 - Welcome

9:00 - The Evolution of Selection Tools
Dr. Darrh Bullock, University of Kentucky

10:00 - Improving the Quality of EPDs for You and Your Customers
Dr. Matt Spangler, University of Nebraska

11:00 - Practical Feeding Strategies for Your Bulls
Dr. Katie Mason, University of Tennessee,
Dr. Katie VanValin, University of Kentucky

11:45 - What are Genomics and How do They Help?
Dr. Troy Rowan, University of Tennessee

1:30 - Bull Reproduction and Health Considerations
Dr. Saulo Zoca, University of Tennessee

2:30 - Putting Selection Tools to Work (EPDs and Indices)
Dr. Matt Spangler, University of Nebraska

3:30 - Does Genetic Information Matter in the Bull Market?
Dr. Charley Martinez, University of Tennessee






other seedstock producers. There will be a major focus on genetics (EPD, genomics, indexes), but we will also cover topics on nutrition, health, bull fertility and marketing strategies. Speakers from the University of Kentucky, the University of Tennessee, and our featured speaker Dr. Matt Spangler from the University of Nebraska will cover these topics. There will be a cost of \$25 to attend and pre-registration is required (space is limited). Lunch and educational resources will be provided. To receive a flyer, a detailed agenda and a mail in registration form you can email Maggie Ginn at Maggie.Ginn@uky.edu or you can go directly to the registration site (links below) to see the agenda and register with a credit card if interested. The Kentucky portion of this program is in coordination with the Kentucky Beef Network and funding was generously provided by the Kentucky Agricultural Development Fund.

Lexington: <https://www.eventbrite.com/e/709667262887?aff=oddtcreator>

Glasgow: <https://www.eventbrite.com/e/709673651997?aff=oddtcreator>

Spring Hill: <https://www.eventbrite.com/e/709676941837?aff=oddtcreator>

Fall Grazing Conference to Focus on Low-Stress Livestock Handling *Dr. Aimee Nielson, Agriculture Communications Specialist, University of Kentucky*

LEXINGTON, Ky., (Sept. 19, 2023) – Cattle producers have two opportunities this fall to learn more about low-stress livestock handling. The University of Kentucky Martin-Gatton College of Agriculture, Food and Environment, with the Kentucky Forage and Grassland Council, the Kentucky Agricultural Development Fund and the Kentucky Beef Network will offer the Kentucky Fall Grazing Conference

Oct. 31 at the Hardin County Extension office in Elizabethtown and Nov. 1 at the Fayette County Extension office in Lexington.

“Rotational grazing systems require producers to move animals on a regular schedule,” said Chris Teutsch, associate professor for the UK Department of Plant and Soil Sciences, stationed at the UK Research and Education Center in Princeton. “It is critical that we have infrastructure in place that facilitates animal movement that reduces stress on both the animal and producer.”

Teutsch said the conference will address not only the physical infrastructure, but also how to minimize stress in grazing systems.

Speakers for the events include:

- Curt Pate – nationally renowned low-stress livestock handling expert with a unique focus on reducing stress in grazing systems.
- Lewis Sapp – nationally recognized fencing expert with extensive experience in both temporary and permanent fencing systems.
- Jeff Lehmkuhler – UK beef specialist and award-winning extension educator with more than 20 years of experience designing flexible watering systems.
- Chris McBurney – livestock facilities expert with more than 25 years of experience in designing, fabricating, and installing livestock facilities throughout the eastern United States.
- Greg Brann – owner of Big Spring Farm in Allen County. He has more than 40 years of experience and extensive knowledge of grassland ecosystems, grazing management, and mixed-species grazing.

Grazing Conference

Low Stress Livestock Handling for Serious Graziers



October 31, 2023 Elizabethtown Hardin County Extension Office 7:30 AM – 3:30 PM CDT	November 1, 2023 Lexington Fayette County Extension Office 7:30 AM – 3:30 PM EDT
 Reducing Livestock Stress in Grazing Systems Curt Pate, Curt Pate Stockmanship	
 Fencing for Multi-Species Grazing Lewis Sapp, Stay-Tuff Fence	
 Designing Flexible Watering Systems Jeff Lehmkuhler, University of Kentucky	
 Designing Livestock Handling Facilities for Existing Structures Chris McBurney, McBurney Livestock Equipment	
 Local Producers and Spokesperson Contest	
 Optimizing Resources with Multi-Species Grazing Greg Brann, Greg Brann Consulting	

For more information please visit [KFQC.ORG](https://www.kfqc.org)

Events begin at each location with registration at 7:30 a.m. local time and run until 3:30 p.m. Participants should pre-register. Advance registration is \$45 per person; day-of registration is \$60 per person and student registration is \$15. Use the following links to register:

- Elizabethtown - <https://2023-KY-Grazing-Conference-Hardin>
- Lexington - <https://2032-KY-Grazing-Conference-Fayette>
- Register by Email: info@kfqc.org
- Register by Phone: 513-470-8171

- Register by mail: Christi Forsythe, PO Box 469, Princeton, KY 42445. Make Checks payable to KFGC.

The BVD Virus in Cow/Calf Operations: Part 2- How do I Test for BVD Virus?

Dr. Michelle Arnold, UK Veterinary Diagnostic Laboratory

“BVD” or “Bovine Viral Diarrhea” virus is one of the most common and costliest viruses affecting KY cow/calf herds and backgrounding operations. Control of the BVD virus is best accomplished through implementation of three equally important practices: 1) surveillance testing to detect and remove persistently infected cattle, 2) vaccination to increase herd immunity and 3) implementation of biosecurity measures to reduce virus entry into the herd. This article, the second in a two-part series, will address diagnostic testing strategies, how to correctly interpret results, and how to implement BVD virus prevention measures.

As a reminder, a “persistently infected” or “PI” calf is the result of a pregnant female (cow or heifer) becoming infected with the BVD virus between 42-125 days of gestation. The mature cow or heifer will experience a “transient” BVD virus infection, lasting from a week to 10 days, which is often mild with no overt symptoms of disease. However, the virus will also cross the placenta, infecting her unborn calf. When this calf is born, it is “persistently infected” or “PI” and is a “carrier” and “spreader” of the virus for its lifetime. Although it is often assumed PIs will die young, some survive well into adulthood and can be fed out to slaughter weight or, if female, may become pregnant. If a PI positive mature cow calves, the calf will always be persistently infected, too. This route of transmission accounts for less than 10% of total PI calves born.

A BVD-PI calf is born with the BVD virus and sheds virus particles everywhere it goes for its entire life. Identification and removal of PI calves is critical to stop long-term survival of the virus.

Testing for persistently infected (PI) cattle is easy and inexpensive with the BVD ELISA test. The most commonly used sample for identifying PI cattle is an “ear notch” skin sample. Blood (serum) can also be used although not in calves less than 3 months old. If the ear notch or serum test result is negative, that animal is negative for life and will never need testing again. Any BVD ELISA positive test result should be confirmed by first separating the animal away from the herd and then retesting a second ear notch or blood sample taken 3 weeks after the first sample. True PI animals will still be positive after 3 weeks while those animals with a short-term infection (transiently infected) will test negative on the 2nd sample.

There are several laboratories in Kentucky that offer BVD PI testing as well as many veterinary practices that work with cattle. There is also a cow-side test available for use on farm:

<https://www.idexx.com/en/livestock/livestock-tests/ruminant-tests/idexx-snap-bvdv-antigen-test/>

Laboratories:

University of KY Veterinary Diagnostic Laboratory (UKVDL):

Home page: <http://vdl.uky.edu/>

Ear Notch Procedure: <http://vdl.uky.edu/bvd-ear-notch-collection-guideline>

Breathitt Veterinary Center:

Home Page: <https://breathitt.murraystate.edu/>

BVDV Persistent Infection Testing: <https://breathitt.murraystate.edu/feeschedule/>

Dependable Livestock Testing (near Smiths Grove, KY):

They will send supplies for testing and a pre-paid box for shipping. Results generally in 24 hours or less. <http://www.dependablelivestocktesting.com/bvd>

If you suspect BVD virus may be in your herd, work with your veterinarian to come up with a plan for testing and, more importantly, what actions will be taken with the results. To test the herd, the following steps are recommended:

1. Test all calves at an early age- It is recommended for calves to reach at least 2 weeks old before taking an ear notch sample. If using a controlled breeding and calving season, test all calves after the last calf is born but *before* placing the bull in a breeding group in order to remove PI calves from pasture before breeding begins. Ear notches can be stored in the freezer and submitted at one time if desired.
2. If a calf is confirmed positive, then test the dam. Remember, a calf can be positive for PI but, in over 90% of cases, the dam will be BVD negative.

If calf is negative, then the dam can be assumed negative and does not need to be tested. (See Figure 1).

3. Test any cow/heifer without a calf at her side.
4. Test all bulls and replacement heifers (purchased or raised).
5. Purchased Pregnant Cows and Heifers-Quarantine and test purchased pregnant females and, if negative, they can join the home herd. However, bear in mind that any of their unborn calves could be a PI and all calves must be tested at 2 weeks of age or older, the sooner the better. A better option is to calve out purchased pregnant females away from the home herd and test their calves for BVD virus prior to any mixing with the home herd.
6. *Remember PIs are considered defective and there is a legal, moral and ethical obligation to either feed them out for personal consumption or euthanize and dispose of these animals without sending/returning them to commerce. Animals that test positive are not to be sold, given away or transported without approval of the State Veterinarian.*

In addition to detection and removal of PI animals, prevention of BVD virus in a herd depends on a sound vaccination program to increase herd immunity and biosecurity measures to reduce the opportunities for virus exposure. Vaccines against BVD (including those with Fetal Protection from BVD-PI claims or “FP” vaccines) will reduce the chances of creating a PI calf but protection is never 100%. Vaccines may fail due to problems with the vaccine itself, the cattle to be vaccinated, and/or management errors. The BVD virus is classified into 2 genotypes, BVD virus-1 and BVD virus-2, each of which contains distinct subtypes with genetic and antigenic variation. BVD vaccines may not contain the subtypes of the virus currently circulating in a region and are therefore not fully protective. Problems within the animals themselves may prevent good vaccine response. Cattle that are sick or stressed when

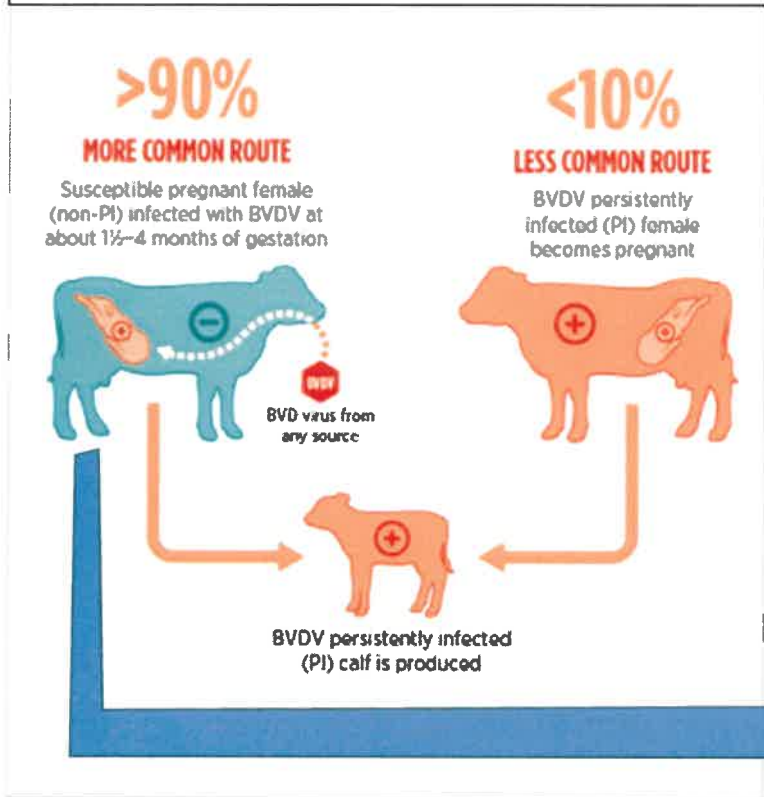
vaccinated, in poor nutritional status or too young to produce antibodies will not be protected with vaccination. Finally, management errors are an all-too-common cause of vaccine failure. These may include:

- Not giving 2 doses of killed vaccine as described on the label.
- Improper mixing of vaccine (shaking violently rather than swirling).
- Failure to use modified live vaccine within 1 hour of mixing (VERY COMMON ERROR)
- Inappropriate storage temperature either before or during use of the product.
- Use of expired vaccine.
- Use of soap, detergent, or disinfectants to clean the inside of multi-dose syringes used to inject modified live vaccine (inactivates vaccine).
- Poor timing: The immune system needs two weeks to develop a protective response from a vaccine before challenged with the virus.

Biosecurity measures to reduce virus exposure extend beyond the quarantine and testing of new purchases. The BVD virus is a “single-stranded RNA virus” which is very stable under moist and cool or cold conditions. It is not affected by freezing and can easily survive at least a week in the right environment. It can be spread short distances through large “droplets” (especially saliva and nasal discharge) and is easily transmitted through nose-to-nose contact. Cattle are social animals and will interact with other cattle whenever possible. Most farm fences are good for marking property lines but not for preventing virus spread. Double boundary fencing with space in-between or installing offset hot

wires on both sides of a fence will significantly reduce the risk of transmission. Other potential virus sources include mechanical vectors such as shared farm machinery or contaminated veterinary equipment. Thoroughly cleaning equipment with soap and water is an effective means of killing the BVD virus. Indirect contact with wildlife, vermin, and other domestic animals, especially through urine and fecal contamination of cattle feed and water sources should be minimized as much as possible. Cattle herds are unique entities with different risks for disease on every farm so work with a veterinarian to best protect your herd.

Figure 1: What route does the BVD virus take in order to produce a PI calf? Over 90% of the time, it is through a PI negative dam.



Birth of healthy, uninfected calf (cycle is broken)



BVD PI testing can be confusing!

When testing calves for PI:

- If the calf is positive, test the dam. The dam's result may be either negative or positive.
- If the calf is negative, no need to test the dam. The dam will be negative.

When testing cows (dams) for PI:

- If the dam tests positive for PI, her calf and every calf she has will always be positive.
- If dam tests negative for PI, must test her calf. The calf may be either positive or negative.