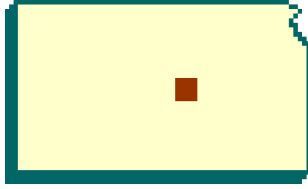


McPherson County



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DECEMBER-JANUARY



Clover Corner

Lindsey Friesen
County Extension Agent
4-H Youth Development



The busy holiday season is here and we are finishing up the first semester of school! Though this is a slower time in 4-H, there are still many things that need to be accomplished. FIRST... are you even enrolled?! Please remember that each 4-H'er MUST be enrolled online! Head to <https://ks.4honline.com> and log into your family profile. You will then edit individual family members to re-enroll them! If you have problems or questions, just ask! Please make sure to read this newsletter closely as your next one will not come out until February! We will be well on our way to a successful 4-H year by then!

~Lindsey

The Extension Office will be closed December 25-January 1.
Please plan your visits accordingly!! Thank you!

Calendar of Events

December	
Dec. 15	County-Wide Committee selections due
Dec 21	4-H Day with the Lady Cats Reg. DUE
Dec. 25-29	Closed
January	
Jan. 1	Office Closed, HAPPY NEW YEAR!
Jan. 4	4-H Council, 7 PM
Jan. 8	Area KAP selections due to Office
Jan. 11	NE Area KAP Screening
Jan. 15	Club Goals Due
Jan. 13	4-H Day with the Lady Cats; 1 PM
Jan. 20	NELE (Northeast Leadership Event)
Jan. 22	Junior Leaders - serve SCS Dinner
Jan. 25	State Scholarships due to office
Jan. 30	Club Fair Theme selections due

Club Goals

Each year, clubs set goals as to what they hope to accomplish for the year. These are due on January 15. Clubs decide if they want to go for a club seal and what level they would like to try to achieve. This is usually decided by a committee made up of both youth and adults, but it can be discussed at a club meeting.

Once a decision is made on which seal to aim for, it is up to all members of the club to help achieve those goals. This means doing your part by participating in 4-H events, doing presentations, completing your record book, and attending club and project meetings!

4-H Fair Theme

Club Deadline - January 30

Don't forget about the 4-H Fair Theme Contest! Be thinking of your ideas today to present to your club!

- Each club will submit one theme to the Extension Office by January 30
- 4-H Council will decide on the top 3 themes
- Each 4-H member can vote on their favorite theme at 4-H Club Day (Feb 17).

OzSome 4-H Camp

Mark your calendars!!! OzSome 4-H camp will be held June 13-16, 2018. More details for campers and counselors will be available the first part of the year.

Mitten Tree



4-Hers are encouraged to bring cold weather items (coats, hats, scarves, gloves, socks, or monetary gifts) to Home State Bank and Trust's Community Mitten Tree between Thanksgiving and Christmas. The tree is located in

the lobby at their Main and Euclid location. Donations can also be dropped off at the Extension Office. The items will be distributed to all the elementary schools in McPherson County.

Get Published

Have project news or reports of fun 4-H happenings? Get them to Lindsey to publish in the upcoming Clover Corner. The next issue will be printed for February, please email or bring in any articles to Lindsey by January 18.

4-H Club Days An Event for Everyone!!!

This event will again be combined with Marion and Harvey County. It will take place on Saturday, Feb 17 at Chisholm Middle School in Newton. Please be thinking about what you would like to participate in as registration will open in January. All registration will be done online this year at the following links:

<http://tinyurl.com/clubdayINDV> (For individual entries)

<http://tinyurl.com/clubdayGROUP> (For any group entries)

Entry info will be available on www.mcpherson.ksu.edu

County-Wide Committees/Council Date

County-Wide Committees

4-H Day, Officer Training, Social Events, Fair Fun Events... these are some of the events and activities planned by county-wide committees! Anyone can be on a committee, or as many committees as they wish! Sign-up is found at <https://tinyurl.com/4hcommittees> There was some technical issues so deadline is extended to December 15. Each council rep must be on at least one committee, but everyone is welcome!

County 4-H Council

The next Council Committee will be January 4 at 7:00 p.m. followed by February 1 at 7:00 p.m.

Junior Leader Happenings

CAROLING 4 CANS

Jr. Leaders will once again be "Caroling 4 Cans" on December 21. Please meet at 6 PM at the Extension Office. We may need a couple extra adult drivers to join us on this adventure! Cocoa and Cider will be available when we return so please bring a Holiday Treat to share! RSVP to the Extension Office by December 19.

Also, mark your calendar for Monday, January 22 when Jr. Leaders will be serving the **Conservation District Annual Meeting** dinner. Everybody's help is needed! Look for more details soon!

Remember, all Jr. Leaders activities are open to youth 12 and older! Invite your fellow club members and other 4-H Friends!

4-H Day With the Lady Cats

Come cheer on the Lady Cats with more than 1000 other 4-H fans! Come join the fun as we flood Bramlage with 4-H Pride!



When: Saturday, January 13, 2018 - 1:00 PM
tip-off – KSU vs. OSU
Where: Bramlage Coliseum; Manhattan, KS (pick-up at Peace Lutheran Church, 2500 Kimball Avenue)
Who: 4-H Families, Friends and Supporters
Cost: \$20 for a ticket, game day t-shirt, and \$7.00 meal voucher to use at concessions.
How: Registration and Payment is due ONLINE by December 21, visit: <http://tinyurl.com/2018kae4ha> to register or find information at our county website.

4-H PROJECT NEWS

McPherson County is in need of more county-wide project meetings! Do you have a skill you could share with other 4-H'ers or are willing to learn along side them? I would love to see volunteers step-up to help teach projects county-wide as many clubs have trouble finding club leaders for each and every project. Let's encourage our 4-H'ers to learn and grow as a group! Maybe you are already hosting meetings for a club and could open them up to any 4-H'er, or maybe you have a certain project or activity you would like to share with others. No matter if you would like to host one meeting or be willing to take on the entire year, please talk with Lindsey! Notify the office of any open meetings so they can be published in next month's project news!

Horse - 4-H Horse Panorama will be held on January 26-28! Registration info and a tentative schedule are available online: <http://www.kansas4-h.org/events-activities/conferences-events/horse/>

LEADERSHIP AND CITIZENSHIP

2017 KAPs

4-H Members that were Project Champions in the Senior Division and will be submitting a KAP to the area judging, please remember that those books will be due to the Extension Office on January 8.

If you would be interested in learning more about KAPs, helping with Area judging would be a great opportunity! McPherson County is able to bring up to three volunteers. This judging will be in Manhattan on January 11. Please contact the office as soon as possible if you are able to help.

CWF

June 14-25 could be the time of your life if you are a 4-H'er between 15 and 18 years old! This will be the 2018 Citizenship Washington Focus



trip for Kansas! Lindsey attended this trip in 2014 as a chaperone and would love to tell you all about the experiences. There is nothing like a bus full of amazing Kansas 4-H'ers headed across the country! Become close with new friends from around the state and experience and see things in our country that you may never have a chance to do again!

Cost of the trip is \$1850 which includes all travel, hotels, CWF conference and admission to sights and activities. But HURRY! Registration deadline January 15 or until 50 spaces are filled! Consider this experience to travel to our Nation's Capital with 4-H Friends! For more info visit: <http://www.kansas4-h.org/events-activities/national-regional-events/citizenship-washington-focus/index.html>

Kansas 4-H Scholarships

4-H members wanting to apply must have completed applications to the Extension Office by Thursday, January 25, 2018.

Scholarship selection is based on:

4-H Leadership- 40%
4-H Citizenship/Community Service- 30%
4-H Participation, Recognition- 20%
Non 4-H Citizenship, Leadership & Recognition- 10%
Graduating seniors and college students are encouraged to apply.

The 2018 form can be found on our website www.mcpherson.ksu.edu under 4-H Youth Development, Forms & Resources, Forms and Applications.

Citizenship in Action February 18-19, 2018

Would you like to have more influence in laws and rules that affect your life? Then you'll want to go to Kansas 4-H Citizenship in Action! This two day event sponsored by the State 4-H Youth Leadership Council, will be held Sunday, February 18 through Monday, February 19, 2018 at the State Capitol in Topeka. All youth 13 to 18 years old by January 1, current year are eligible to attend.

The purpose of the event is for Kansas youth to learn how the state legislative process works and how their voice and participation in decision-making can make a difference in their local communities. The legislative visit will not only familiarize youth with the capitol building, but will also show them how they can affect the legislative process.

Registration is \$170 and due for CIA by January 15. For more info visit: <http://www.kansas4-h.org/events-activities/conferences-events/citizenship-in-action/index.html>



Living Well

Jana McKinney
County Extension Agent
Family & Consumer Science



Stay Healthy, Stay Strong is Coming in January, 2018

Stay Strong, Stay Healthy (SSSH) is an evidence-based, eight-week exercise program for older and sedentary, middle-aged adults. The hour long class meets twice each week, and includes strengthening exercises. Participants learn the exercises and begin to improve strength and balance. After eight weeks, participants are encouraged to continue this program at home or with a community group. Participants will help determine the class time. Three pieces of equipment are used: a chair, hand weights and adjustable ankle weights. Weights will be provided for class participants to use. If interested, please contact Jana at 620-241-1523 or email at jmckinne@ksu.edu This program is \$20.00 will be held in Galva.



Planning Ahead

The most important thing about managing diabetes during the holiday season is to plan ahead. And, whether you are a diabetic or not; these suggestions are great for all of us to consider.

Schedules: What does your schedule look like for the holiday season? Are you going out of town with your family? Having visitors stay with you? Do your plans usually include a lot of parties and food-oriented events? Or are your holidays more active, with events such as the annual family Thanksgiving football game?

Schedule time for physical activity on most days this holiday season. Talk to your health care team ahead of time if you need to make adjustments in your medication or insulin because of the timing of holiday meals or travel. Manage holiday stress by sorting out your plans in advance.

Menus: Once you know what your day will consist of, then start to think about the food involved. Do you have traditional dishes that you make every year? There's no need to completely rework your menu just because of diabetes, but you may want to fine-tune it a bit.

Planning ahead can help. For example, maybe there are some ways you can make your traditional holiday foods a bit healthier. Will that casserole taste just as good with fat-free or light sour cream instead of regular? Can you steam the green beans this year instead of sautéing them in butter?

There are plenty of ways to lower the amount of fat, sugar, and carbohydrate in your favorite foods while still keeping the taste and texture you love. If your family looks forward to your famous holiday fudge every year—go ahead and make it, but first talk to your diabetes educator or dietitian about how to work it into your meal plan. It may mean eating less of other treats, getting more exercise, increasing insulin doses, or a combination of all three.

The Importance of Portion Size: Avoid holiday weight gain by watching portion sizes. During the holiday season, when gatherings and even shopping trips are often centered on food, weight gain may seem unavoidable. But watching portion sizes can help prevent those extra pounds.

How To Clean Your Dishwasher



You may think that washing the dishes would clean the dishwasher, but a good cleaning on its own can keep it in good condition and help it work better. Follow the manufacturer's recommendations for the best cleaning. If there is a rubber gasket, use a toothbrush to scrub it and wipe with a damp cloth. Check the drain and remove objects that may plug the drain. If there are odors, fill a cup with plain white vinegar. Place on the top rack and run the dishwasher. Use a soft cleanser or baking soda to remove stains. There are appliance cleaners that can also be useful.



Battle Heart Disease With Your Toothbrush!

Your toothbrush is a powerful weapon against heart disease. Recent studies have shown an increased risk of heart disease and stroke in people with gum infections. Gum disease produces a tremendous amount of bacteria. If you have a heart valve problem, the bacteria can invade and infect the heart.

Regular, thorough brushing and flossing represent the first line of defense against gum disease. Make sure you get regular dental check-ups, choose a healthy diet without sugary snacks and sodas, avoid tobacco products, and limit alcohol intake.

If you discover that you have gum disease, you can avoid spreading the problem. Do not share a glass with anyone or blow on your child's food to help cool it. Maintaining good oral health is something you can do to protect your good health. Consult your physician and dentist for more information.

Source: Healthy You Wellness Tip from K-State Research and Extension



Hand Washing Is Important!

Hand washing can keep you healthy during this festive holiday season. In case your family has told you, the cold and flu season are back, stronger than ever. Practice good hand washing to prevent the spread of viruses as well as reduce the risk of food borne illness.



So, just how do you wash your hands the “correct way”? Here's the basics—

- Use warm water and soap. Antibacterial soap isn't necessary.
- Rub and scrub between fingers, under fingernails, and backs of hands. Sing “Jingle Bells” or “Happy Birthday” as you wash. These songs take about twenty seconds—which is what you need—twenty seconds of friction for thorough cleaning.
- Rinse well and dry with disposable paper towels or a clean cloth towel.

Know Your Winter Storm and Extreme Cold Terms

Familiarize yourself with these terms to help identify a winter storm hazard:

Freezing Rain:	Rain that freezes when it hits the ground, creating a coating of ice on roads, walkways, trees, and power lines.
Sleet:	Rain that turns to ice pellets before reaching the ground. Sleet also causes moisture on roads to freeze and become slippery.
Winter Storm Watch:	A winter storm is possible in your area. Tune in to NOAA Weather Radio, commercial radio, or television for more information.
Winter Storm Warning:	A winter storm is occurring or will soon occur in your area.
Blizzard Warning:	Sustained winds or frequent gusts to 35 miles per hour or greater and considerable amounts of falling or blowing snow (reducing visibility to less than a quarter mile) are expected to prevail for a period of three hours or longer.
Frost/Freeze Warning:	Below freezing temperatures are expected.

Holiday Traditions

For children aged 3 to 5, the holidays offer many delights – the lights, the singing, the cookies and yes, the presents. To keep the presents and “getting” in perspective, choose holiday traditions that convey your family's values.

Choosing Your Traditions:

- Bring the traditions from your own childhood that you truly cherish.
- Discuss as a family, including your toddler, what your family would most like to do for the holidays.
- Setting realistic goals, in terms of time and money, can set you up for success. Trying to do too much only invites more stress.



Relationship Tip of the Month

When you have a disagreement with someone, try to stay connected and engaged with one another instead of being defensive and unkind. Consider exhibiting affection, interest, and shared respect. If possible, exhibit your sense of humor even during times of disagreement, but remember to still display respect to the other person.

Consider turning toward one another in times of disagreement, as this will allow you to react in a positive way, thus promoting emotional connection. Over time, a couple can develop stable, long-term relationships from this behavior.

Avoid turning against one another in times of difference.

Improve Your Mood

Ever get in a bad mood? You might have some worries that are bothering you or just feel blue. Try these tips to improve your mood.

- * Get away from the computer. One research study indicated using the computer can increase stress and a depressed mood. It can take away time from social interactions, sleep, and physical activity. Log off the computer after a period of time especially if you are browsing the internet.
- * Go for a walk outside or even walk in your house or apartment. Research indicates it helps reduce stress after a challenging event. After exercising, a person often bounces back from stressful adventures. It often helps reduce depression. Exercising may give a person more energy.
- * Listen to music, and you may become happier. A study found that listening to music improved a person's mood, reduced stress, and lowered a person's inflammation which could reduce some of the symptoms of arthritis.
- * Be around positive people and spend time with them.
- * Get good quality sleep. Keep a regular bed time and sleep in a dark and cool room. Eliminate caffeine in the evening.
- * Spend some time outside in the sunshine. One researcher concludes just being outside 60 minutes a week can increase Vitamin D levels and lessen depression.



Tips for Getting Your Finances in Order

If you're serious about pursuing your financial goals, you need to get your finances in order. Below are some more tips to help in that process.

- ^ Assess your insurance needs, including life, health, disability, long-term care, homeowners, automobile, and personal liability. Over time, your insurance needs are likely to change. Insurance companies offer innovations and riders that might be applicable to your situation. Re-evaluating your insurance can lead to lower premiums with coverage better suited to your situation.
- ^ Take active steps to reduce your taxes. There are a variety of strategies that can help you reduce your income taxes, thus freeing money for savings. The key is to review those strategies now, so you have plenty of time to implement them.
- ^ Review your estate plan. If it's been a few years since you've reviewed your estate plan, take time to go over your documents to make sure they still reflect your wishes for your estate's disposition. If you don't have an estate plan, get one in place.

Freezing Yeast Dough

To save time during the holidays, or any time of year, prepare yeast dough ahead of time and freeze into dough balls for rolls to bake later. The trick is using a dough with extra yeast because slow freezing can damage yeast.

According to Fleischmann's Yeast, it is best to use dough recipes developed for freezing. These recipes are high in yeast and sugar and low in salt. It is recommended to use bread flour to help maintain bread structure. After preparing and kneading the dough, shape into rolls or flatten into a disk and wrap airtight. The dough can be frozen up to four weeks. When ready to use, thaw at room temperature or slowly in the refrigerator. Once thawed, shape, let rise, and bake as directed.

Some examples of freezer dough recipes include:

<http://www.breadworld.com/recipes/freezer-pizza> dough; <http://www.breadworld.com/recipes/Master-Bread-Dough>.

Other tips for prepping dough ahead for later use can be found at <http://redstaryeast.com/yeast-baking-lessons/postpone-baking/>

Food Safety for Wild Game

Hunting season is right around the corner! Safety precautions are important for physical safety. But, food safety is also important when handling your prize catch.

For tips on the care and handling of large game animals and wild birds, see www.ksre.kstate.edu/foodsafety/topics/animal.html#wild

If you plan to have the animal processed by a commercial processor, call ahead to schedule a processing date.



Ag News

Shad Marston
County Extension Agent
Agriculture and Natural Resources

Annual Cow Calf School

Thursday, February 8, 2018

Lindsborg, Kansas

RSVP to tregehr@ksu.edu or call 620.241.1523 by Monday, February 5

Cost: \$5.00

Meal - 6:00 p.m., program to follow

December Garden Calendar

Vegetables and Fruits

- Store leftover seeds in a cool, dry location, for example, in a sealed jar placed in the refrigerator.
- Check vegetables in storage for spoilage.
- Mulch strawberries for winter protection.
- Clean and oil garden hand tools for winter.

Flowers

- Mulch roses by mounding soil 6 to 8 inches deep over the plants to protect the graft.
- Mulch perennial beds with 2 to 4 inches of straw, shredded leaves, or other lightweight material.
- Cut tall hybrid tea roses back to 18 to 24 inches to reduce wind whipping and plant damage.
- Continue to plant spring flowering bulbs until the ground is frozen. Water and mulch.
- Give plants or gift certificates as holiday gifts for gardening friends.
- Empty decorative pots and containers. Store inside or decorate for winter.

Lawns

- Pick up fallen leaves, limbs, and other debris from lawn to prevent suffocation of the turf during winter.
- Store any left-over lawn fertilizers in dry location and out of reach of children and pets.
- Store pesticides in a cool (not freezing) dry location for winter, out of reach of children and pets.

Trees and Shrubs

- Keep heavy snowfall from limbs of trees and shrubs by lightly shaking to avoid damage.
- To prevent breakage, avoid shoveling snow onto trees and shrubs.
- Check and protect the trunks of young trees and branches of shrubs for rabbit damage.
- Living Christmas trees are special. Leave in your home no longer than one week, then acclimate to outdoors and plant in a desirable location.
- Prune damaged branches throughout the winter months.
- Water newly planted trees and shrubs in winter to prevent dry soil conditions.
- Mulch roots of tender shrubs such as azaleas and rhododendrons to keep vigorous during winter.
- Prune branches of junipers, pines, hollies, and other plants to use as holiday decorations.

Miscellaneous

- Start planning for next year by making notes and preparing orders.
- Turn compost pile to encourage winter breakdown.

January Garden Calendar

Vegetables and Fruits

- Pick up and discard fallen fruit before spring arrives.
- As nursery catalogs begin to arrive, look for plants with improved insect and disease resistance.
- Order fruit trees

Flowers

- Peruse seed catalogs and prepare your seed order.
- Things you can start: For spring flowers, get unplanted spring bulbs in the ground as soon as possible.
 - o Start seeds throughout the winter, depending on growing requirements.
 - o Water fall planted perennials to prevent dry soil conditions.
- Watch for signs of frost heaving and cover tender roots.
- Replace mulch layers.
- Check bulbs in storage for rot and decay. Discard damaged ones.
- Curl up with a good book and learn more about gardening.

Lawns

- Avoid walking on frozen lawns. It may injure the grass.
- Rake fallen leaves that pile up on the lawn to prevent suffocation of grass.
- Scatter snow instead of piling it up on the lawn next to drives and walks.

Trees and Shrubs

- Snow and ice on limbs:
 - o Gently brush heavy snow from tree and shrub limbs to reduce damage.
 - o Allow ice to melt naturally from limbs. Do not use water to melt the ice or attempt to knock it off.
- Pruning:
 - o Prune storm damaged limbs quickly to reduce damage and prevent tearing of the bark.
 - o Avoid the temptation to prune on warm winter day. You'll prevent further damage.
- Bring twigs of flowering trees and shrubs indoors to force blossoms.
- Water fall planted trees and shrubs when soil is dry but not frozen.
- Watch out for rabbit damage to the bark of trees and shrubs.

Miscellaneous

- Clean and repair garden tools during the winter.
- Sand and seal tool handles to prevent splinters. Apply brightly colored paint to handles. It makes them easier to spot in the garden.
- Keep bird feeders and water supplies filled for the feathered friends.
- Evaluate the garden and make notes to assist in next year's planning.
- Take photos of the garden and analyze for year-round interest.

Forage Analysis: What Numbers Do I Need?

Justin Waggoner, Ph.D., Beef Systems Specialist

One of the more common questions I receive with regard to analytical testing of forages and other feedstuffs is, "I have the sample, now what do I test for or what analysis package should I select?" The basic components that nutritionists need to evaluate a feedstuff or develop a ration are dry matter or moisture, crude protein, an estimate of the energy content of the feedstuff [Total Digestible Nutrients (TDN), Net Energy for Maintenance (NEm), Net Energy for gain (NEg)], and the macro minerals, Calcium and Phosphorous. These are the most basic numbers that are required but including some additional analyses in the report can give us additional insight into the quality of the feedstuff or improve our ability to predict animal performance, which is the primary reason we analyze feedstuffs. I recommend that the report include acid detergent fiber (ADF) and neutral detergent fiber (NDF). The amount of NDF in forage reflects the amount of cell wall contents (hemicellulose, cellulose, and lignin) within the sample. The NDF fraction is often associated with the respective bulkiness of forage and is correlated with dry matter intake of the forage or feedstuff. Therefore, the amount of NDF may be used to estimate the expected dry matter intake associated with the forage. The ADF number represents the amount of cellulose and lignin within the forage and is correlated with the respective digestibility of the forage. In general, a higher ADF value is associated with forage that has a greater proportion of cellulose and lignin and would likely be more mature. Additionally, the ADF fraction is used to calculate the energy estimates TDN, NEm, and NEg that appear on the report. There are a number of different mathematical equations that the testing laboratory may use to calculate these numbers, based on the type of sample (corn silage, alfalfa, grass hay, etc.). If the ADF is included in the report, the nutritionist can adjust or recalculate the energy estimates if necessary.

Vaccination Plans, Need to Start Now

Vaccinations are an important part of disease prevention in an animal health program. **Vaccinations** need to be combined with specific management practices for best control of some diseases. Before embarking on a vaccination program for your herd, contact your local veterinarian or Extension beef specialist for up-to-date advice. Extension agents are always asked the question, “do vaccinations really help out my cow herd?”

Now would be a good time for cattle producers to review their animal vaccination plans, according to Gerald Stokka, North Dakota State University Extension Service veterinarian.

Preventing infectious disease through planned vaccination strategies is critical to every cattle operation, he says. Producers should develop vaccination strategies in consultation with their veterinarian, and those strategies should be risk-based, researched and reviewed annually.

Here are three principles producers should consider when implementing vaccination protocols:

- * **Necessity** - Is the risk of exposure high enough that clinical disease and pathogen transmission will become a health and well-being issue beyond their expectations for the herd?
- * **Efficacy** - Does scientific evidence or observational experience indicate that vaccine selection for specific pathogens is effective for the level of exposure and stress of the herd.
- * **Safety** - Does evidence indicate that the vaccination will not cause harm through local or systemic reactions?

“The result of considering these principles is that vaccination protocols become relatively short, can be defended and are used in the proper circumstances at the proper time,” Stokka says. Remember, when administering vaccines, always follow the manufacturers’ instructions. Vaccination of beef calves weaned in fall or spring should adhere to these principles.

What’s Necessary in Calf Vaccination Protocols?

“Viral vaccines are necessary because no other management tools are available to treat or prevent virus infections that contribute to respiratory disease in beef calves,” Stokka says.

In Great Plains beef herds, the viruses BRSV (bovine respiratory syncytial virus), IBR (infectious bovine rhinotracheitis) and PI3 (parainfluenza 3) appear to be widespread. Cow herds vaccinated for or exposed to these viruses will provide some protection to young nursing calves through passive immunity transferred shortly after birth. However, this protection will wane when the calves are about 3 to 4 months of age, and they can be at risk.

Research indicates that intranasal-administered vaccines in young calves can enhance protection, even when maternal immunity is high. The primary dose of virus vaccine should contain these viruses and be administered via the intranasal route.

The BVDV (bovine virus diarrhea virus) pathogen is a concern, but in beef herds that practice annual cow herd vaccination, the risk to young calves is reduced and vaccination can be delayed until weaning.

The second dose, which should be given prior to or at weaning, can be administered parenterally (labeled as subcutaneous or intramuscular). It will booster the response to the viruses that previously were administered intranasally.

Common vaccination protocols include products combined to contain four to five viruses and a bacterial fraction. These are best administered as the second, or booster, dose.

Which Vaccines to Use

Vaccination plans for the breeding herds with annual viral vaccinations should include pre-breeding (30 days prior to breeding) modified live vaccines containing IBR, BRSV and BVDV, along with a five-way leptospirosis fraction and campylobacter (vibrio).

Stokka recommends that if these are administered in the fall at pregnancy checking time, producers should use inactivated virus vaccine with five-way leptospirosis. If administering a modified live virus vaccine to pregnant cows, producers should check with their veterinarian to make sure the vaccine is being used according to label directions.

This is what to use during grass turnout time or for a preweaning initial vaccination:

* Modified live virus vaccine containing BRSV, IBR and PI3 administered intranasally

* Clostridial vaccine, seven- or eight-way administered subcutaneously

Use for preweaning, weaning or post-weaning as a second (booster) dose:

* Modified live virus vaccine containing BRSV, IBR, PI3 and BVDV (type 1 and 2) administered subcutaneously (can be in combination or separately with a bacterial fraction containing leukotoxin to *Mannheimia hemolytica*)

* Clostridial vaccine, booster dose, seven- or eight-way administered subcutaneously

For herds without an annual viral cow herd vaccination, use the following for turnout time or a preweaning initial vaccination:

* Modified live virus vaccine containing BRSV, IBR and PI3 administered intranasally

* Modified live virus vaccine containing BVDV (types 1 and 2) administered parenterally (can be in combination or separately with a bacterial fraction containing leukotoxin to *Mannheimia hemolytica* in herds with history of nursing calf pneumonia)

* Clostridial vaccine, seven- or eight-way administered subcutaneously

For herds without an annual viral cow herd vaccination, use the following for weaning or post-weaning as second (booster) dose:

* Modified live virus vaccine containing BRSV, IBR, PI3 and BVDV (types 1 and 2) (can be administered in combination or separately with a bacterial fraction containing leukotoxin to *Mannheimia hemolytica*)

* Clostridial vaccine, seven- or eight-way administered subcutaneously

“Make sure you are consulting with your veterinarian on vaccine strategies and handling,” Stokka advises. “Your operations are unique and will need recommendations tailored to your operation”. We as Extension agents cannot stress this enough, producers should consult with their local veterinarians and develop a herd health plan that meets a sound vaccination program as well as a treatment plan for calves if they do become sick. Planning ahead of time can save lots of money when ordering vaccination supplies and deletes the many individual trips to the animal health store when you run out of supplies when processing your cattle.