



•**Milk Lab note:** Our milk lab will no longer provide sensitivity testing for antibiotics. We have discouraged using this service for years because quite often the lab results just don't correlate with treatment results. Once a bug is cultured, it's better to use published data on what drug to use for the organism. The state lab still does the test with a much more accurate system than we used but it is expensive. We will be sending all samples that people want sensitivities to the state lab. The fee is \$65.00.

•**BI has a fall special on the following products:** Dry-Clox, Presponse vaccine, Express and Express FP vaccines, Pyramid, Pyramid + Presponse vaccine, PolyMast, and Zactran. Very few of our clients use much of this group of products and you need to purchase \$800 minimum to get a rebate check of 5%. There is a rebate certificate in the office that you can pick up and fill in but we do report sales to BI so the checks should be issued automatically.

**Improving dairy cow reproduction:** From a recent webinar meeting: The dairy reproduction physiologists at the universities keep finding better applications of the OvSync tools to get more cows pregnant. Two things in recent research really stand out.

1. An extra dose of GnRH a week before any form of OvSync gets more cows pregnant. The best application of this is resync programs. If the vet is checking pregnancies on Thursdays, we often have producers give the first OvSync GnRH dose the Thursday before the preg check. Then if the cow is open, we give the Lut shot for the Resync when the cow is diagnosed open. But by giving an extra GnRH two weeks before the preg check, then another GnRH the week before preg check more cows will be pregnant and fewer of the pregnant cows will abort.
2. For those that use Estrumate or any of the generic cloprostenol products, using a double dose (4cc) when doing OvSync increases the number of pregnancies.

Remember that all these newer systems don't work for every producer. However, with all the excess heifers the industry is producing, maybe these ideas aren't so good.

**Grain Overload:** Just a quick reminder because every fall we get called to a couple farms with grain overload. Corn that's just harvested and is still high moisture is like candy to cattle. If you're cleaning up around gravity boxes and augers with fresh high moisture corn or corn going into a dryer, don't just shovel it into a manger somewhere so it gets used. I've seen heifers, dry cows, and steers all killed when someone inadvertently overfeeds what I call green shell corn. This includes steers on self feed stuffers. Please, not this fall.

**This is wild:** Kentucky Fried Chicken has partnered with a lab to produce chicken nuggets. The product is a chicken-like nugget made with lab grown meat and plant substitutes. They are producing the nugget with a 3-D printer. KFC already has a chicken substitute that is plant based and has been test marketed in Nashville, TN and Charlotte, NC. I really struggle with the imitation of meat- why not develop unique products that stand alone. But they say imitation is the sincerest form of flattery.

## **Vaccine thoughts in animals and humans:**

I'm a big proponent of vaccines. I've been vaccinated for rabies multiple times, I get the flu vaccine every year, and I just signed up to volunteer for a COVID vaccine if they want me. Why, you might ask?

It's important to understand that vaccines are developed mainly for viral diseases like IBR, BVD, Rabies, Influenza, and Chicken Pox, and for bacterial diseases like Brucellosis, Johne's disease, Whooping Cough, and Tuberculosis. If you noticed I listed animal diseases and human diseases in the last sentence, that's because animals respond to vaccines in the same manner as humans; sometimes well and sometimes not so well.

40 years ago when I moved to Waupun I got to see IBR infect dairy herds. There was usually an outbreak of pneumonia with some dead cows, and then most of the pregnant cows in the herd aborted. Although there were vaccines available, few producers used them, a failure by veterinarians to educate the producers. I changed that. Although IBR still lurks we don't see the disease as a herd disaster anymore. BRSV was another viral pneumonia disease of young stock that would tear through calf barns and it's still around but a decent vaccine strategy prevents the death loss we saw in the past.

Vaccines are never 100% effective. With most viral diseases like IBR, BVD, and BRSV, the colostrum a calf receives at birth prevents the vaccine from working. This blocking can last 4 to 6 months, sometimes longer. That's why we vaccinate calves more frequently than adult cattle.

Some viral diseases respond poorly to vaccination, and this is usually because the virus constantly changes its surface structure. AIDS is really good at changing, but so is influenza and the common cold. In the case of Influenza, vaccine often produces partial immunity so the disease is not as severe. If a vaccinated individual is infected, that individual sheds less virus for a shorter time putting fewer friends and family at risk.

Even with adults, there are some individuals that will not respond to a vaccine, so herd immunity is an important concept. In the case of Small Pox, the disease was eliminated worldwide with vaccinating. Polio is almost eradicated. Brucellosis, which causes Undulant Fever in people who drink unpasteurized milk, was almost totally eliminated in the United States' cattle population. This was done using a vaccine, which protected 2/3 of the vaccinated animals, and by slaughtering test positive animals. Brucellosis only exists today in wild buffalo and elk surrounding Yellowstone Park because federal judges won't let USDA test and slaughter. So vaccinating protects your neighbors' animals as well as yours, and your vaccine helps protect your neighbor and your family.

The COVID virus is a corona virus, and the common cold is also a corona virus. The common cold virus changes its surface so fast that vaccines to date have always failed. This surface change is termed genetic drift. However, from what I've read so far, the COVID virus has had minimal genetic drift. This looks promising for vaccine development.

Even more promising is that the FDA has not allowed new technologies in vaccine development to occur for years. Safety concerns and different technologies scared regulators. Additionally, there didn't appear to be a lot of financial rewards for developing vaccines for diseases with genetic drift outside of AIDS.

However, the severity of the COVID outbreak has put enough pressure on the FDA so that new technologies are being allowed. The vaccine out of Oxford, England is based on a technology developed 10 years ago and is finally being applied.

I've watched vaccines control and eliminate multiple diseases in my lifetime. Vaccines, with a few exceptions, are much safer with fewer side effects than any other groups of pharmaceutical chemicals that we use. The research money poured into COVID could have tremendous benefits in vaccine applications from things like the common cold, to perhaps cancer or obesity. The FDA has finally been forced to drop their obstructionist attitude towards vaccines and the future is brighter for human and animal health. I expect animal vaccine development to benefit from the COVID vaccine research.