# IBR or Red Nose:
# What is it, how does it affect my herd and what can I do about it?

**What is IBR?**

IBR is the short name for Infectious Bovine Rhinotracheitis. It is a herpes virus and in the same family of viruses that cause cold sores in humans, it is a different type of herpes virus. This means that cattle IBR will not affect people and cold sore virus will not affect cattle. The virus has an ability to attack mucus membranes that line the breathing tubes like the trachea; they also line the female reproductive tract, and the eye. When IBR attacks these areas, it kills the cells that line these mucus membranes and results in signs of disease.

**What signs might I see in my herd?**

IBR is widely distributed in the cattle population in the US, and most IBR infections go unnoticed. If your herd has some resistance, the signs can be very mild, consisting of a little clear nasal or eye watering. In a herd that has poor resistance, you may see any or all of the following more severe signs: high temperatures, off feed, increased breathing, severe cough, abortion, vaginal discharge and/or eye discharge. Cattle may have a severe hyperemia, which is an increased blood supply to the muzzle that makes cattle look like they have a "Red Nose". This stage of the disease reduces the natural barriers of cattle to infection. The respiratory tract of cattle is generally divided into the upper portion, which consists of the nasal passage and the windpipe or trachea, and the lower portion, which is the lung. The general function of the upper tract is to provide a way of getting clean, uncontaminated air to the lungs. If dust, bacteria or viruses get into the lung, they may cause pneumonia. The upper respiratory tract prevents this in several unique ways. The trachea is lined with several cell types. One of these cells produces sticky mucus that 'grabs' dust, bacteria, and virus particles. Other cell types in the trachea have small fingerlike projections (villi) on them that all beat together in an upward direction. They beat up rapidly and down slowly. The combination of these two types of cells cause dust, bacteria, viruses and other particles to stick to the mucus and the mucus is slowly brought up the trachea where it is swallowed by the cattle. Once the bacteria and viruses are swallowed, they are rendered harmless by the cattle’s digestive tract. This system works to keep everything harmful out of the lungs. However, when IBR virus attacks cattle, it causes the death of the cells that produce the fingerlike projections that cause the mucus to move up the trachea. When this happens, dust, bacteria and other viruses still stick to the mucus. There is an irritation of the trachea, which causes the cattle to produce more mucus. The mucus accumulates in the trachea, causing the cattle to develop a severe cough in an attempt to force the mucus up the trachea. These attempts are not very successful, so dust, bacteria and other viruses end up in the lungs where they cause pneumonia. These pneumonias are referrer to as secondary pneumonia. The bacteria that actually cause the pneumonia are always in the cattle’s environment, but they cannot get into the lung unless viruses damage the cattle’s normal protective mechanism. IBR virus also attacks the mucus membranes that line the eye and can cause a severe reddening and irritation of the eye. This can be easily mistaken for a bacterial pinkeye infection. When IBR virus infects the mucus membranes of the vagina, it can cause severe irritation and

results in abortion and/or infertility. So when IBR infects your herd you may see little or no signs provided your herd is immune to IBR. If your cattle are not immune to IBR, you may see abortions, reproductive problems, eye infections, cattle off feed, high temperatures, mild to severe coughing, and pneumonia.

**What can I do about IBR?**

The key to handling IBR is to prevent an infection by vaccinating the cattle before an infection has a chance to occur. This is very effective. There are two basic types of IBR vaccine; killed and modified live. These vaccines are commonly given in combination with other viruses like PI3, BVD, and/or BRSV. IBR can be given in combination with PI3 virus as an intranasal vaccine. These intranasal vaccines have been used successfully during outbreaks of IBR. Generally, beef cattle should receive their first IBR vaccination at 4 - 6 months of age. Some vaccines require a second dose and you should follow the recommendation of your veterinarian and the label instructions. Heifers and bulls saved for breeding should be boostered prior to breeding and the breeding cows and bulls should be vaccinated yearly. Vaccination during an outbreak of IBR may help stimulate cattle to produce immunity that develops more rapidly and clears the infection sooner. Like all viral infections, there is little you can do to treat an IBR infection once it is established. Much like treating the human flu or a cold, supportive care to reduce dehydration and antibiotics to treat or prevent secondary bacterial infections may be necessary. In essence, the cattle have to develop an immunity to the virus and get rid of it themselves. Out breaks of IBR are usually limited to cow herds that do not vaccinate and purchase a cow or bull that bring the disease into the herd or calves that are weaned and stressed. Calves that are well vaccinated before shipping and cow herds that vaccinate before bringing new cattle onto the farm have very little problem with IBR infections. With this in mind, vaccination and prevention are the keys to minimizing the effects of IBR in your herd.