**PINKEYE IN CATTLE**

Article from OFF THE HOOF-Kentucky Beef Newsletter, 
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**Infectious Bovine Keratoconjunctivitis (IBK) or “Pinkeye” is a costly/contagious disease for the beef producer.**

**Steps to Preventing Pinkeye:**

**Maximize Herd Immune Status-** An overall good level of nutrition, adequate vitamin and trace mineral intake, a comprehensive vaccination program including the respiratory viral diseases IBR and BVD, parasite control, and basic biosecurity practices are all exceptionally important in improving the cow’s or calf’s ability to fight off any disease process (not just pinkeye). There is no scientific evidence to support feeding excessive levels of any vitamin or mineral, including Vitamin A, will prevent diseases of the eye. Biosecurity measures such as quarantine of new arrivals to the farm (including show animals) for three weeks before commingling with the herd are important in case any of these animals is carrying the disease.

**Maintain an irritant free environment-** Any irritation to the eye allows Moraxella bovis to invade and cause pinkeye. Prevent eye irritation with good face fly control, mow tall grass with seed heads, provide shade and clean water, and reduce sources of stress (such as overcrowding) if possible. Control face flies with ear tags impregnated with insecticide and topically administered insecticides by way of back and face rubbers or dust bags they must walk under to get to water or mineral (see UK Extension Publication ENT-11: Insect Control on Beef Cattle). Removal of fly breeding grounds and the use of certain feed additives will decrease the number of flies. Provide shade to protect from the harmful UV rays of the sun. Cool, clean drinking water (instead of stagnant pond water) is critical because intake is greater with clean water and this helps provide plenty of fluid in the eye, especially important in dry, dusty, and/or windy conditions. Tears are essential in eye defense mechanisms as tears wash away pathogens and tear proteins are an important part of protective mechanisms. Do not forget to regularly check and clean automatic waterers.

**Minimize exposure to M. bovis [and M. bovoculi]-** Early detection of animals with the first clinical signs (tearing, squinting, and blinking) and then prompt, effective treatment are essential to reducing spread to herd mates and limiting damage to the eye. Long-acting antibiotic such as longacting tetracycline or the prescription antibiotic tulathromycin (Draxxin®) are labeled for treatment of pinkeye. Your veterinarian may prescribe the antibiotics florfenicol (Nuflor®) or ceftiofur (Excede®) to be used in an off-label manner for treatment as well. Injectable antibiotics are generally the best option because of their long duration of activity and effectiveness in eliminating bacteria. Topical sprays only remain in the eye a few minutes before tears wash them away so application is generally required 3-4 times daily to be effective. When severe ulceration exists, the eyeball may need extra protection with either a patch or the eyelids may need to be sutured (stitched) together. Remember, preventing spread by treating affected animals is the single most important factor in controlling a disease outbreak. Active cases of pinkeye with excessive tearing attract flies that widely spread the bacteria. Topical application of a fly repellent to the face will also help reduce spread.

**Does vaccination work?** Immune responses to pili have been shown to be protective in some studies where animals are vaccinated with pili of a certain type and then challenged with a similar strain. This fact is likely responsible for why some herds might see a benefit from vaccination while other herds do not; if the vaccine strain stimulates immunity to a pilus type that is also present in the herd, there should be good protection. In clinical trials, approximately half reported significant protection from commercial vaccines. Therefore, it is unlikely that vaccination is the solution to all pinkeye problems although it may reduce the overall incidence of disease and severity of clinical signs. When commercial vaccines are not effective, a vaccine can be made from bacteria cultured from pinkeye cases from one particular farm or farms in a certain area. All cultures must be taken early in the course of disease; preferably when the eye is just beginning to tear excessively and before any medications are used. These specialty vaccines can be effective if the “correct” M. bovis antigen is used. However, autogenous vaccines often lose effectiveness within one to two years as the bacteria mutates and a new batch needs to be made from new cultures.