

Subcutaneous Clostridial Injection-Site Lesions Indicate Improved Immune Response

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Many producers have observed unsightly injection-site lesions under the skin of calves after subcutaneous administration of clostridial vaccines. Beef quality assurance efforts throughout the last decade have strongly discouraged practices that cause intramuscular injection-site lesions. But, beef quality assurance programs generally do not address lesions that form under the skin. So the real question is: Are injection-site knots under the skin that result from subcutaneous clostridial vaccines bad?

Researchers in Arkansas conducted a study on 37 weaned heifers to address this concern. All the heifers were administered a 2 cc dose of clostridial vaccine under the skin. Twenty-eight days later each heifer was inspected for injection-site knots under the skin in the location the injection was administered. Injection-site knots were present in almost 65 percent of the heifers. The Arkansas researchers also measured blood serum antibody titers to compare the immune status of heifers with injection-site knots to those that were free of injection-site knots. Interestingly, the heifers that developed injection-site lesions under the skin had enhanced resistance to *Clostridium chauvoei* (Blackleg) at 28 and 84 days after the subcutaneous vaccine was administered. Plus, 28 and 56 days after the vaccine was administered, resistance to *Clostridium sordellii* (sord; a sudden death disease) and *Clostridium perfringens* type D (Overeating) was improved for heifers with subcutaneous injection-site lesions.

In general, the results of this Arkansas study indicate that resistance to clostridial diseases, as measured by antibody titers, is improved when subcutaneous injection-site lesions develop. This study indicates that lesions should not be a discounting factor when pricing cattle, but instead an indicator that cattle have been properly immunized.