

Effect of Liquid Hog Manure Application Rate, Timing, and Method on Yield and Species Composition of Native and Tame Forage Lands

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One of the challenges facing large-scale hog operations in arid and semi-arid regions is the disposal of animal wastes in a safe, socially acceptable and environmentally sustainable manner. Research initiated near Hanna, Alberta aims to establish the appropriate guidelines on how hog manure can be applied to non-cultivated lands. This includes an evaluation of the effects of liquid hog manure application rate, timing, and method on vegetation characteristics within native range and associated tame pastures.

Preliminary results of this research have shown that increasing rates of liquid hog manure application to range and pasture vegetation has prominently increased forage quantity, with the greatest increases apparent on tame pastures. Relative increases in forage production, however, were relatively similar between all types of forage lands. In addition, slight to moderate changes in species composition were observed on native rangeland. These results clearly highlight the agronomic benefit of utilizing liquid hog manure for enhancing forage production in this region, but also indicates that on native rangeland, where the maintenance of ecological condition is an important consideration, more conservative rates of application of liquid hog manure may be required.

Implications: These preliminary results show that liquid hog manure, where readily available, offers an effective nutrient source that benefits forage production on both native rangeland and tame pasture. Implications of this research to Alberta's pork industry include demonstration of the compatibility of joint hog and beef production, as well as the maintenance of rangeland ecological integrity, provided that appropriate application rates are used. Furthermore, this should enhance the ability of the hog industry to expand its effective geographic range of production in the province by helping minimize concerns over suitable uses for liquid hog manure. Supported by Alberta Pork.