

Production of Transgenic Mice Secreting a *C. thermocellum* Cellulase D in the Pancreas

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Increasing competition in the livestock industry has forced producers to cut costs by adopting new technologies aimed at increasing production efficiency. Non-ruminant livestock do not express fibrolytic enzymes. The major plant cell wall components of cereals, primarily β -glucans and arabinoxylans, form gel-like structures in the small intestines that trap nutrients. The viscous polysaccharides can also cause severe gastrointestinal disorders. The fibrolytic enzyme supplementation of diets increases the feed conversion efficiency and growth rate of the non-livestock. However, implementation of this technology in the livestock has been limited largely because of the cost of development and production of enzymes. The advent of transgenic animal technology provides us with the opportunity of manipulating the repertoire of enzymes secreted into the gastrointestinal tract. To initiate the development of non-ruminant livestock with the endogenous capacity to hydrolyze plant structural polysaccharides. We have generated transgenic mice which express the bacterial endoglucanase specifically in the pancreas with secretion of the enzyme into the small intestine.

key wordS) *transgenic animal, endoglucanase, pancreas*