

ANIMAL SCIENCE

Title: Carbohydrate and Bacterial Non-antibiotic Production Enhancers - **NPB 04-143**

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Abstract

The objective of this project was to conduct a review of the literature on carbohydrate and bacterial non-antibiotic production enhancers for swine.

Introduction

There is increasing public and government concern about the use of growth promotant antibiotics in livestock production. Thus, there is increasing interest in non-antibiotic production enhancers, such as probiotics (direct fed microbials) and prebiotics (carbohydrates). Throughout history people have consumed "probiotic" microorganisms in fermented foods and there have been numerous testimonials that these probiotics enhance health. Prebiotic compounds (inulin) occurs naturally in plants. Because of the recent increase in interest in prebiotics and probiotics, many think that this is a new field, however Metchnikoff (1907) suggested that there are "bad" bacteria in the intestine that shorten an individuals life, but that the use of fermented foods increased health in individuals. However, as Rettgeri and Chaplin (1921) indicated, research with probiotic bacillus and lactobacillus (including Bifidobacteria) and the prebiotic "lactose" in the late 1800's. Although there is increasing interest in these approaches, there is also concern about how effective they are, compared to growth promotant antibiotics and whether there is increased variability in efficacy with these alternatives to antibiotics.

These research results were submitted in fulfillment of checkoff funded research projects. This report is published directly as submitted by the project's principal investigator. This report has not been peer reviewed

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