

# Evaluating a Seaweed Blend for Young Pigs

## RFR-A1970

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### Introduction

The purpose of this project was to compare growth and performance in young pigs between diets currently utilized by many niche market swine producers and the same diets supplemented with a commercially available macroalgae blend. The examined product was a combination of dried Chlorophyta, Phaeophyta, and Rhodophyta algae, more commonly described as green, brown, and red seaweed. Previous work has suggested supplementing pig diets with seaweed may deliver several bioactive compounds that support pig performance, but it is unclear whether this product adds value to existing diets.

### Material and Methods

Two feeding trials were conducted at the ISU Western Research Farm, Castana, Iowa, to test whether a macroalgae blend added value to existing diet formulations. In each trial, weaned pigs were delivered to the farm and fed for four weeks. The SPRING group began March 21, 2019, and the FALL group began October 10, 2019. Each group was approximately 400 head of mixed barrows and gilts with a beginning weight of 20 lb. On arrival at the farm, pigs were sorted into six pens (15 ft x 60 ft) located in bedded hoop barns, with each pen equipped with an automatic waterer and round self-feeder. Pens were randomly assigned to one of two dietary treatments. Dietary treatments were CONTROL—a complete corn-soybean meal

diet commonly used by niche market swine producers, or TEST—the control diet supplemented with the dried seaweed product at a rate of 7,500 ppm. The algae supplementation was fed for the first phase from 20 to 50 lb. The same base-mix was used for both diets and included dried whey, various yeast fermentation products, and phytase, but only the TEST diet contained dried seaweed. All feed was prepared on farm with a portable grinder mixer. Feed usage was tracked by pen, and pigs were weighed every two weeks.

### Results and Discussion

Supplementing 20–50 lb pigs with 7,500 ppm of a dried seaweed product did not improve growth rate or feed efficiency in either trial (Table 1). There was no difference in average daily gain, average daily feed intake, or gain:feed. There was a seasonal effect, with pigs starting in March growing faster and consuming more feed than pigs starting in October, but there was no diet-by-season interaction.

The lack of increased growth rate suggests supplementing with the dried seaweed product did not add detectable value in these trials. Although supplementing pigs with bioactive compounds may support overall gut health and reduce negative consequences of stress in some situations, in these trials the pigs without supplementation performed as well as the pigs that had been supplemented. This suggests existing diet formulations and handling protocol are sufficient. Although additional supplementation did not decrease performance, there was no benefit to adding the examined product.

**Table 1. Growth and performance of young pigs in bedded hoop barns supplemented with macroalgae blend.**

	<b>CONTROL</b>	<b>TEST</b>	<b>SEM</b>	<b>P-value</b>
Start wt, lb	20.36	20.34	0.06	0.7924
End wt, lb	42.30	48.00	0.66	0.1955
ADG, lb	0.97	0.93	0.02	0.2357
ADFI, lb	2.01	2.04	0.04	0.6051
G:F	0.48	0.46	0.01	0.0737
	<b>FALL</b>	<b>SPRING</b>	<b>SEM</b>	<b>P-value</b>
Start wt, lb	19.80	20.90	0.06	< 0.001
End wt, lb	45.16	52.13	0.66	< 0.001
ADG, lb	0.79	1.12	0.02	< 0.001
ADFI, lb	1.67	2.39	0.04	< 0.001
G:F	0.48	0.47	0.01	0.5504

FALL = October 10-Nov 11, 2019, 32 d; SPRING = March 21-April 18, 2019, 28 d;

CONTROL = 0% supplementation; TEST = 7,500 ppm dried macroalgae blend.