

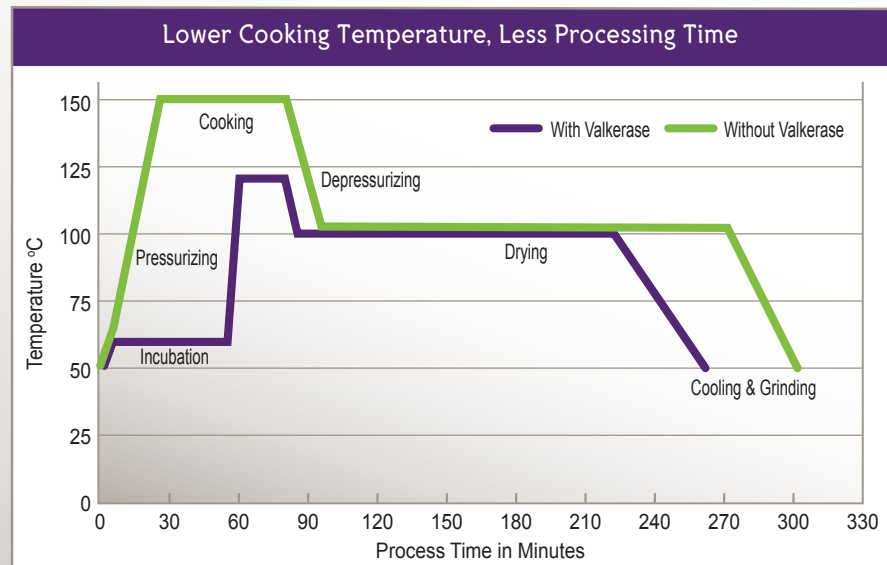
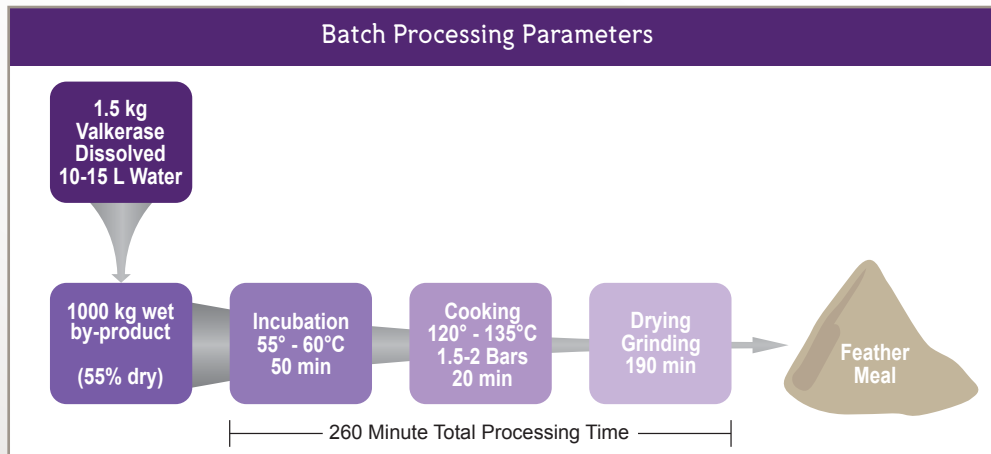
# Valkerase®

Better Feather Meal, Naturally

Valkerase is a unique keratinase enzyme that hydrolizes keratin peptide bonds in feathers, producing higher quality, less expensive feather meal

## Advantages for Feather Meal Processors

- Reduces cooking time and temperatures
- Increases processing productivity
- Can be used in batch or continuous processing
- Reduces processing odor
- Creates more consistent, higher quality feather meal

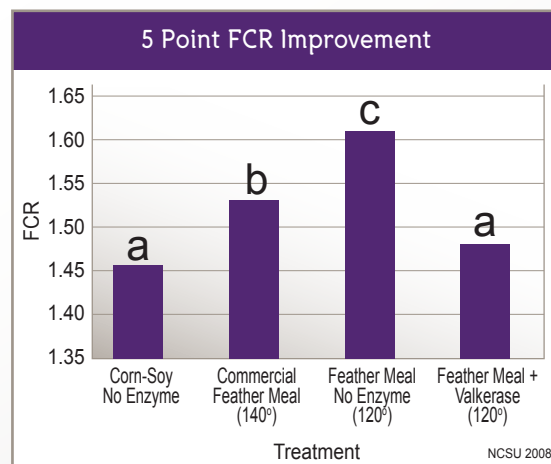
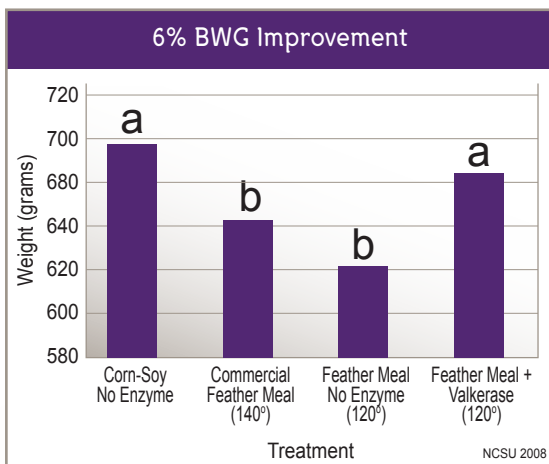


## Advantages for Feather Meal Users

- Conserves amino acid content, improving digestibility
- Improves body weight gain and feed conversion rate
- Reduces feed cost by allowing higher inclusion rate

Conserves Amino Acids, Improves Digestibility				
Trials	Analysis	Without Valkerase	With Valkerase	% Improvement
75% feathers 10% meat waste 15% blood	Pepsin 0.2%	64.8%	74.1%	+ 14.3%
90% feathers 10% blood	Pepsin 0.2% Cysteine/Crude Protein	57.1% 4.2%	60.9% 5.9%	+ 6.7% + 40.4%
100% feathers	Pepsin 0.002% Lab 1	32.3%	40.5%	+ 25.3%
	Pepsin 0.002% Lab 2	36.1%	41.5%	+ 14.9%
100% feathers C. Parson	Pepsin 0.002% <i>In vivo</i> digestibility (CP)	NA 55.0%	43.2% 71.5%	+ 30.0%

US trials conducted by independent laboratories



## Environmental Advantages

- Efficiently converts feather waste to low cost, good quality source of protein for animal production
- Processing feather meal with Valkerase requires less energy and reduces odor pollution

## Product Specifications:

- Powder form
- 25 kg bags
- 24 month shelf life from date of manufacture