

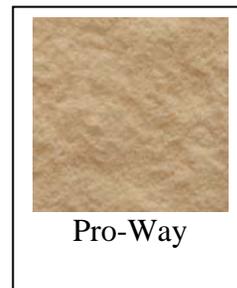
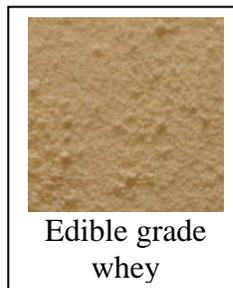
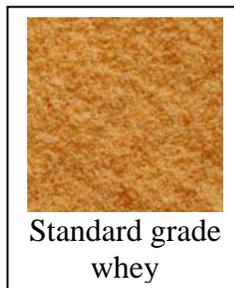
TM  
Pro-Way

## Advanced Dried Whey Replacer

Advanced ingredients continually improve the quality of animal nutrition, and occasionally do it more economically. Pro-Way™ is an advanced protein and energy source that economically boosts nutrient bioavailability and animal efficiency. Pro-Way improves protein/amino acid digestibility and supplies energy-dense carbohydrates in a pound-for-pound plug-in replacement for expensive and variable dried whey, cost effectively capturing top performance.

Nutrient digestion and animal performance using diets based on dried whey can be unreliable. The heating process used to dry whey is inconsistent from plant to plant and sometimes from batch to batch. Overheating, whey's most common performance drain, caramelizes protein, indigestibly binding or complexing it to the abundant milk sugars. Caramelized whey physically darkens to familiar shades of brown, a reliable sign of reduced solubility and lower digestibility. Overheating is a key defect that causes milk processors to downgrade whey from edible human grade, diverting it into feed.

Downgraded whey can also find its way onto the feed market because of unacceptable microbial contamination or acidity. Downgraded whey is frequently offered to the feed industry at discounted prices, but using feed grade whey with poor protein digestibility jeopardizes animal performance and customer confidence. Pro-Way is an ideal solution, offering you lower cost than human/edible grade whey without the unacceptably high risk of overheated or contaminated feed grade whey. Pro-Way is extremely consistent because the protein is spray-dried and cannot be caramelized with its bio-active carbohydrates. This important distinction, illustrated in the accompanying photo, eliminates the risk associated with inconsistent whey sources in young animal nutrition.



### *Post-weaning nursery pig testing*

Newly-weaned pigs are very sensitive to ingredient quality, so they make a good model for testing whey quality. Researchers conducted swine nursery

trials to determine what performance differences, if any, might be expected using Pro-Way to replace edible grade dried whey in starter rations. Pigs were weaned at 23 days of age, averaged 15.23 lb, and consumed test diets for 21 days.

*Test diets.* Dried whey and Pro-Way both provide fuel to allow pigs to convert dietary protein to muscle more efficiently. For this reason, tests are often designed with experimental diets formulated to slightly reduced lysine levels. This ensures the pigs are sensitive to diet changes and the experiment is conducted within a range that produces observable responses. Two different lysine levels were used in this test, 1.3% and 0.9%. At each lysine level, there was a corn-soy negative control ration (no whey), a positive control diet consisting of 20% edible dried whey, and a test formula with Pro-Way's combination of bio-active carbohydrates, proteins and amino acids replacing the dried whey of the positive control.

*Trial results.* The pigs in this research were very sensitive to improving diet quality, with Pro-Way and dried whey significantly increasing ( $P < .05$ ) feed intake and weight gain compared to the control diet at both lysine levels. This confirmed that the lysine levels of the test diets were within a range that allowed observable responses. Pigs eating feed containing Pro-Way consumed as much feed and grew as fast as those with edible dried whey in their rations. Feed conversion significantly favored ( $P < .05$ ) Pro-Way over dried whey at both lysine levels.

Test diets:	Pig Performance		
	Control	Dried Whey	Pro-Way
1.3% dietary lysine			
Start weight, lb	15.26	15.11	15.35
Daily gain, lb	.47	.54 <sup>a</sup>	.55 <sup>a</sup>
Daily feed, lb	.72	.84 <sup>a</sup>	.81 <sup>a</sup>
Feed-to-gain ratio	1.53	1.56	1.47 <sup>a</sup>
Final weight, lb	25.13	26.45 <sup>a</sup>	26.90 <sup>a</sup>
0.9% dietary lysine			
Start weight, lb	15.24	15.28	15.13
Daily gain, lb	.45	.49 <sup>a</sup>	.55 <sup>a</sup>
Daily feed, lb	.79	.91 <sup>a</sup>	.95 <sup>a</sup>
Feed-to-gain ratio	1.76	1.86	1.73 <sup>a</sup>
Final weight, lb	24.69	25.57 <sup>a</sup>	26.68 <sup>a</sup>

<sup>a</sup>Averages within a row with different superscripts differ significantly ( $P < .05$ ).

Feed manufacturers and their customers expect reliable feed and animal performance. At the same time, they are under pressure from the rising cost of high-quality ingredients. Many are tempted to reduce ration cost by removing the more expensive ingredients, like edible-grade whey, or switching to lower grade ingredients. Pro-Way is the ideal solution with no compromises. This research shows Pro-Way can significantly improve feed intake and weight gain compared to less complex rations, with performance that is second-to-none, meeting and exceeding the intake, growth and feed efficiency from dried whey. Feed manufacturers and their customers can rely on Pro-Way to decrease the variability and performance risk associated with feed-grade whey, while at the same time economically capturing top performance.