



## TECH NOTES

# Supplementation and Phosphorus Management

Dietary phosphorus (P) is essential for all classes of cattle, supporting a wide array of metabolic, growth, and reproductive functions. However, P that is not retained and used by the animal – including that which is undigestible as well as any excess contained in the diet – can be of environmental concern as it is excreted.

### Selecting Phosphorus Sources

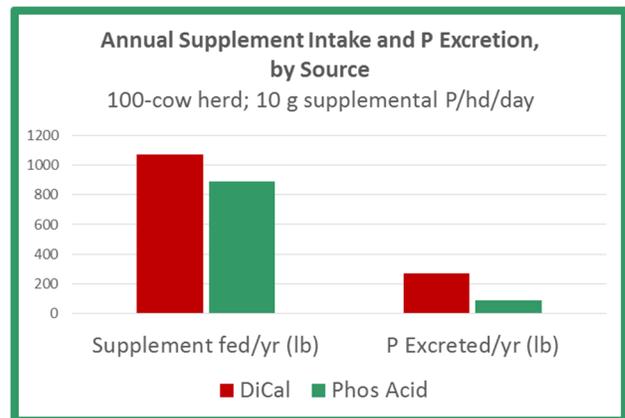
Supplemental phosphorus sources vary in concentration and bioavailability. Any P that is consumed but unavailable will be lost to the environment as waste.

Phosphoric acid is the P source used in Westway free-choice liquid supplements. The P in Phosphoric

Acid is more concentrated and more available than any other supplemental ingredient. This means that less supplemental P needs to be fed and less P is carried out in manure.

Let's put that in perspective. This chart shows the amount of total P supplement needed to achieve 10 grams P absorbed, and the amount of waste P that must be disposed of, for a herd of 100 cows requiring 10 grams of supplemental absorbed P per day. Use of Dicalcium Phosphate will produce **260 lbs waste phosphorus annually**. The same amount of absorbed supplemental P from Phosphoric Acid will produce **only 89 lbs waste P**.

Dietary Phosphorus Sources			
	% Phosphorus	% Availability	% Waste
Defluorinated Phosphate	18.0	65	35
Dicalcium Phosphate	19.3	75	25
Calcium Phosphate	21.6	80	20
Ammonium Phosphate	20.6	80	20
Phosphoric Acid	31	90	10



### The Role of Protein Supplements

P Supplied When Supplementing ¼ lb Protein from Various Sources		
	Lb Required	Grams Incidental P/day
DDGS	2.6	8.2
Wheat Midds	4.9	20.4
Rice Bran	5.9	41.3

Almost all protein sources also contain phosphorus. The table shows the amount of potentially unneeded P that is supplied along with ¼ lb supplemental protein from these common feedstuffs. The phosphorus level in Westway supplements is targeted to meet but not exceed animal requirements.