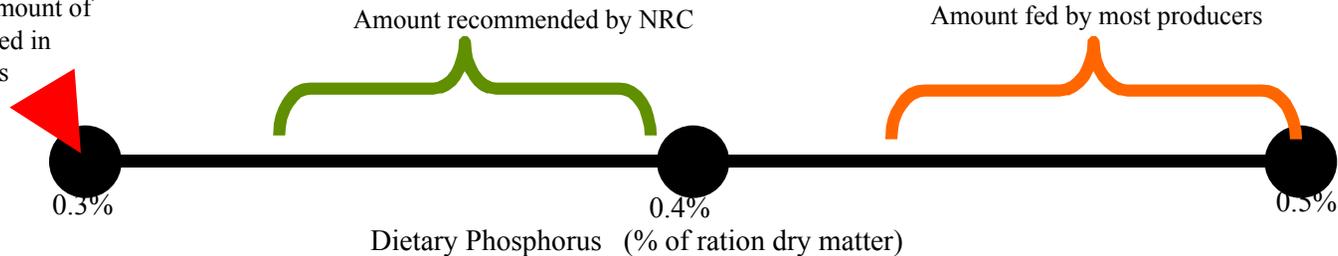


# PHOSPHORUS REQUIREMENTS FOR LACTATING COWS



**We overfeed phosphorus in the U.S.!!** By reducing or eliminating phosphorus supplements in dairy diets, dairy producers can save \$100 million/year in the U.S. We can also reduce the phosphorus content of water runoff from fields receiving dairy manure. Phosphorus causes excess algae growth in lakes and streams.

Research at USDFRC shows this is the minimal amount of phosphorus needed in lactation diets



LAND REQUIREMENT FOR RECYCLING MANURE PHOPHORUS FROM ONE COW PRODUCING 20,000 lbs MILK PER YEAR<sup>1</sup>

| Dietary P level<br>(% Diet DM) | Land Area Needed To Recycle Manure P <sup>1</sup><br>(Acres) | Change in Land Area Due To P Supplementation<br>(%) |
|--------------------------------|--|---|
| .35                            | 1.3  | 0   |
| .40                            | 1.6  | 23  |
| .48                            | 2.0  | 54  |
| .55                            | 2.4  | 85  |

<sup>1</sup> Cropping system comprised of 37% corn grain, 7% corn silage, 47% alfalfa hay, and 9% soybeans. Manure P applied to offset average crop removal of 26.6 lbs P per acre per year.

- Some margin of safety is required, and the NRC (2001) recommendations provide a reasonable margin of safety.
- There is no experimental evidence that feeding phosphorus above NRC recommended amounts will improve reproductive performance. A large experiment nearing completion at USDFRC confirms this.
- Feeding less phosphorus makes a difference!! It saves \$10-15/cow/year, and reduces phosphorus content of manure by 25-30%.

### Take home message

Removing excess phosphorus from dairy diets is a “win-win” for dairy producers and the environment

More producers will need to comply with regulations requiring adequate land for manure phosphorus. Removing excess phosphorus from dairy diets will reduce the land requirement for manure spreading.

**Reducing Dietary Phosphors Saves Money and is Easier on the Environment**

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