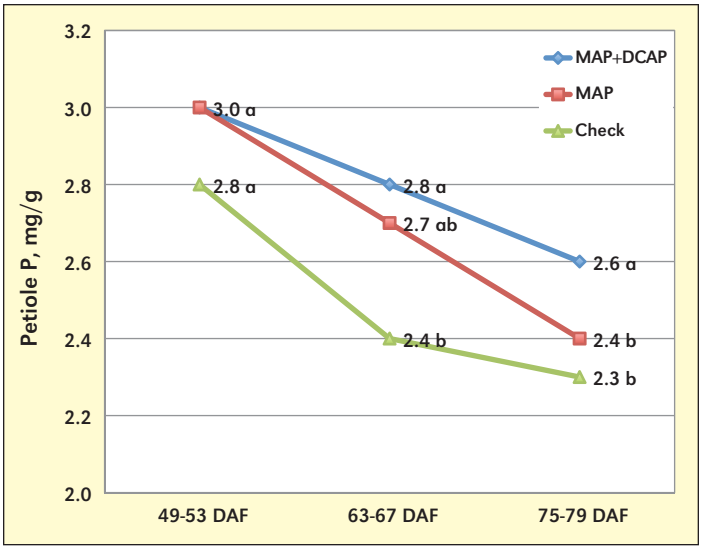

Figure 2. Petiole P concentrations for potatoes grown without fertilizer P (check), with untreated MAP, or dicarboxylic acid polymer (DCAP)-treated MAP. Data are combined for trials 1-5. DAF = days after fertilization. Data points with the same letter at a specific DAF are not significantly different at $p \leq 0.10$.

Not surprisingly, these results show that the benefit of DCAP-treated fertilizer is more likely when soil test P concentrations are low and at modest rates of fertilizer P. Evidence from these trials and the work of other researchers suggest that high rates of P overwhelm any beneficial response from DCAP.

It is clear from the range of responses reported by various researchers that many factors, including crop type, soil properties, fertilizer source, rate, placement, timing, etc., can have effects on crop response to P fertilizers blended with DCAP. However, the growing number of positive yield responses to DCAP observed for such crops as potato, rice and maize suggest that further research with this product is warranted to improve its effectiveness and the predictability of response. BC

Table 5. Total and U.S. No. 1 yield of Russet Burbank potato for trial 9 as influenced by P applied in the spring as MAP or APP applied with or without DCAP.

Total P, kg P_2O_5/ha	MAP, kg P_2O_5/ha	APP, kg P_2O_5/ha	DCAP	Total yield, t/ha	U.S. No. 1, t/ha
Check	0	0	0	40.4	21.8
90	45	45	0	44.1	22.3
90	45	45	+DCAP	43.6	28.2
180	90	90	0	41.8	22.5
180	90	90	+DCAP	50.0	26.6
270	90	180	0	43.1	25.2
270	90	180	+DCAP	45.6	29.8
Treatment Means					
Fertilizer P without DCAP			43.0	23.3	
Fertilizer P with DCAP			46.4	28.2	
$LSD_{0.05}$				ns	4.1
PR > F				0.37	0.05

Trade names and company names are included for the benefit of the reader and do not imply any endorsement or preferential treatment of the product by the authors or IPNI.

Dr. Stark is a Professor, Department of Plant, Soil, and Entomological Sciences, University of Idaho; e-mail: jstark@uidaho.edu. Dr. Hopkins is a Professor, Plant and Wildlife Sciences Department, Brigham Young University; e-mail: hopkins@byu.edu.

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