

SUL-PO-MAG[®] AGRI-FACTS

Tree Fruit

Increasing numbers of tree fruit growers are recognizing the benefits of using Sul-Po-Mag in their fertility programs.

Sul-Po-Mag contains 10.5-11% magnesium (Mg), a very important nutrient for the production of high quality fruit.

Sul-Po-Mag contains 21-22% sulfur (S) in a NON-ACIDIFYING FORM.

Sul-Po-Mag contains 21-22% potash (K₂O) in the premium, sulfate form.

Sul-Po-Mag is highly water soluble. This means its nutrients can move through the soil profile to the rooting depth of tree crops. The nutrients in Sul-Po-Mag are readily available for plant uptake.

A recent university study evaluated the response of apples to various rates of Sul-Po-Mag over a 5-year period. Application rates were 0 - 775 lbs. Sul-Po-Mag annually. Sul-Po-Mag increased yields dramatically on this low K, low Mg soil: yields increased by up to 65% during the 4th and 5th years of the experiment. (Table 1)

Table 1. Effect of Sul-Po-Mag on yields of Empire Apples.

Sul-Po-Mag rate (kg/ha)	Yield (kg/ha) ⁽¹⁾
0	40,320
230	47,148
459	55,373
868	66,823

(1) average yields of 1986 and 87, New York

In another field study, the effects of K and Mg fertilization (including Sul-Po-Mag) of McIntosh apples, over a 5-year period, were summarized by the author as follows:

- K fertilization increased tree growth, fruit size, yield.
- Mg fertilization reduced pre-harvest fruit drop.
- Response to K greater than response to Mg.

— Excessive K applications should be avoided an effective Mg source should be applied along with potash.

— Dolomitic lime was ineffective as Mg source.



One of the major reasons for using Sul-Po-Mag in tree fruit fertilization programs is to maintain a proper balance between K and Mg in the soil and in plant tissues. Tree fruits require large amounts of K — the actual crop removal of this nutrient sometimes exceeds that of nitrogen (N). But applications of K can restrict plant absorption of Mg and actually induce Mg deficiencies. So it is very important — especially under high yield conditions — to keep these nutrients in balance in order to maximize fertilizer efficiency. This interaction of K and Mg was demonstrated in field trials (North Carolina) with Elberta Peaches. The experiment was conducted over a six-year period on a deep sandy soil. When either K or Mg was applied by itself, there was no yield response. Only when both these nutrients were applied together was there a response to fertilization. (Table 2)

Table 2. K/Mg Teamwork - Peaches, North Carolina.

K Rates (kg/tree/year)	Mg Rates (kg/tree/year)		
	0	.11	0.22
	(yield - Kg/tree)		
0	59	62	52
0.30	59	61	76
0.60	59	64	70

By using Sul-Po-Mag in tree fruit fertilization programs, a proper balance between K and Mg can be assured — and a proper balance of all nutrients is essential for high yields of top-quality fruit.