Foliar potassium nitrate application increased cotton yield and quality parameters

In a study in Argentina 9 kg KNO_3/ha/spray was applied two or three times, at a weekly interval, starting at first flower appearance. Both foliar treatments increased significantly lint yield, lint percentage, micronaire and fibre length (Tables 1 and 2), when compared to the untreated control plot. On the parameters tested, there was no statistically significant difference between the numbers of KNO_3 sprays (i.e. 2 or 3 sprays) applied.

Table 1. The effect of foliar applied potassium nitrate dose rates on lint yield, fertilizer use efficiency, % lint and the seed index.

Treatment	Lint yield	Lint yield increase	Fertilizer use efficiency	% Lint	Seed index
	kg/ha	kg/ha (%)	kg yield / kg foliar		g/100 seeds
Control	1122 b	0	-	37,4 b	10,2 a
2*9 kg KNO_3/ha	1451 a	329 (+29%)	18,3	38,6 a	10,4 a
3*9 kg KNO_3/ha	1483 a	361 (+32%)	13,4	38,8 a	10,5 a
LSD (0,05)	218,2	-	-	0,7	0,7
CV (%)	5,74	-	-	4,1	4

Table 2. The effect of foliar applied potassium nitrate dose rates on micronaire, fibre length, length uniformity and fibre strength.

Treatment	Micronaire	Fibre lenght	Lenght uniformity	Fibre strengh
		mm	%	g per tex*
Control	4,3 b	28,1 b	82,6 a	27,4 a
2*9 kg KNO_3/ha	4,7 a	28,5 a	82,4 a	27,7 a
3*9 kg KNO_3/ha	4,7 a	28,5 a	82,5 a	27,7 a
LSD (0,05)	0,3	0,3	0,5	1
CV (%)	4,72	1,15	0,35	2,09

* a tex unit is equal to the weight in grams of 1000 meters of fibre