

Higher gross margin of tobacco in Mexico resulted from treatments of Specialty Plant Nutrition

From November 2010 through May 2011, a field test was carried out on Burley tobacco in Santiago de Ixcuintla (Nayarit State, Mexico). On a tobacco plantation belonging to grower Juan Gonzalez Rangel, associate of the tobacco company Tabacos del Pacífico Norte in Santiago de Ixcuintla, the effects of treatments with granular fertilisers were compared against treatments with water-soluble Specialty Plant Nutrition (SPN) products. The purpose of this test was to assess the effect of each treatment on the yield and the quality of the leaves. Each treatment was carried out on a plot of 1 hectare. The details can be observed in Tables 1 and 2.

Table 1. The tobacco grower's treatment with granular fertilisers.

Moment of application Momento de aplicación	Fertiliser Fertilizante	kg/ha	N	P ₂ O ₅	K ₂ O	MgO	CaO
Transplanting / Transplante	18-16-14+2% MgO	500	90	80	70	10	0
30 DAT - 30 DDT	22-01-18+4% CaO	450	99	5	81	0	18
45 DAT - 45 DDT	22-01-18+4% CaO	250	55	3	45	0	10
Totals - Totales		1.200	244	88	196	10	28

DAT= Days after transplanting

DDT= Días después transplante

Table 2. The SQM treatment with a granular base + water-soluble Specialty Plant Nutrition products.



Moment of application Momento de aplicación	Fertiliser Fertilizante	kg/ha	N	P ₂ O ₅	K ₂ O	MgO	CaO
Transplanting / Transplante	18-16-14+2% MgO	500	90	80	70	10	0
30 DAT - 30 DDT	Ultrasol® Growth Ultrasol® Crecimiento	250	63	25	25	1	0
	Yara® Liva Calcinit	50	8	0	0	0	13
45 DAT - 45 DDT	Ultrasol® NKS	250	30	0	115	0	0
	Yara® Liva Calcinit	50	8	0	0	0	13
Totals - Totales		1.100	199	105	210	11	26

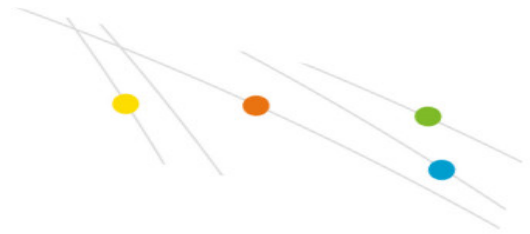
DAT= Days after transplanting

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Figures 1 and 2. The standard tobacco grower's hand applied granular fertiliser treatment (left) versus the SQM water-soluble SPN sprinkler applied treatment (right).

The results clearly showed a positive effect of SQM's watersoluble Specialty Plant



Nutrition (SPN) products on overall yield, the total number of leaf strings, leaf size, the number of leaves, and plant height (Figure 3). The total yield and the yield per leaf quality also increased (Figure 4), as well as the total gross revenue and the gross revenue per leaf quality (Figure 5).

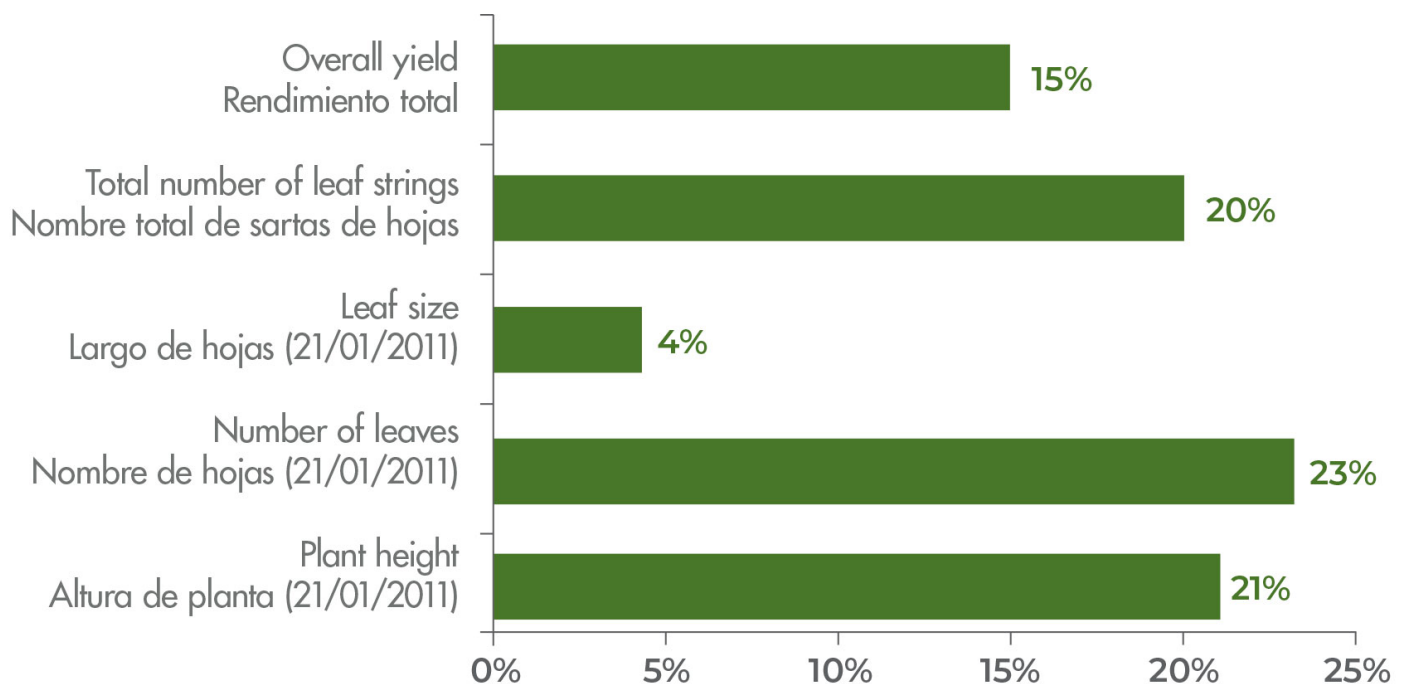


Figure 3. Performance increases (%) in tobacco growth and yield resulting from SQM's side-dressed, sprinkler applied, water-soluble SPN treatment versus the tobacco grower's hand applied treatment with granular fertilisers.

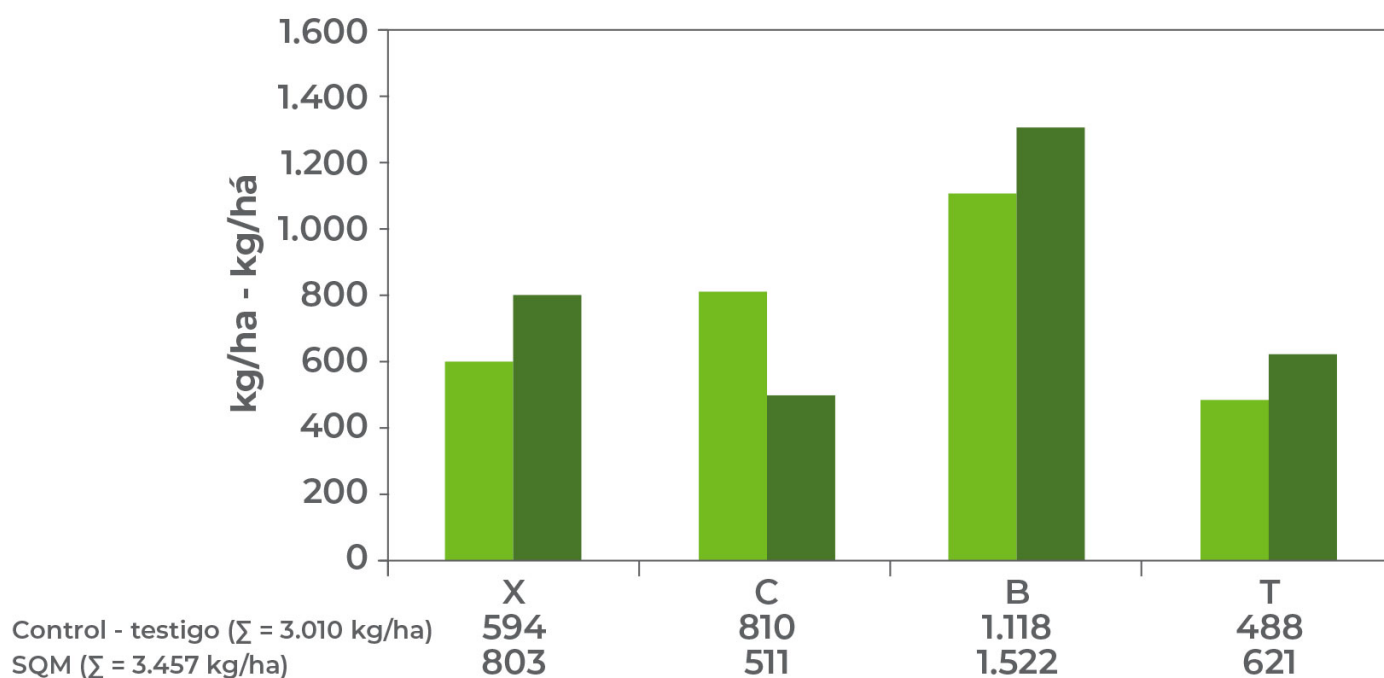
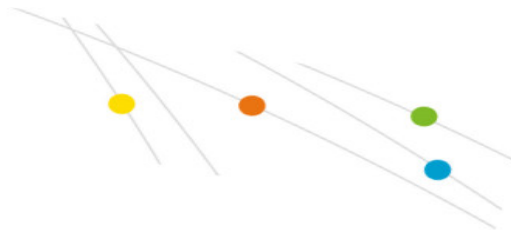


Figure 4. Comparison between the yield per leaf quality and in total.

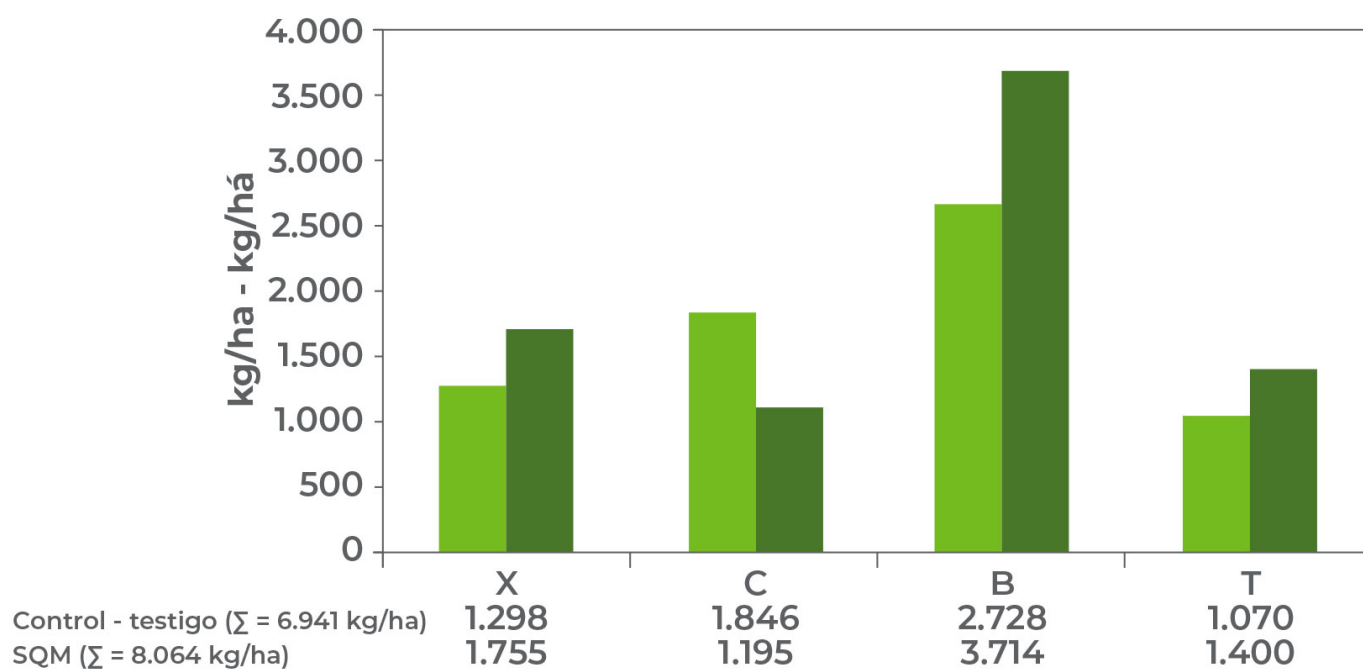


Figure 5. Comparison between the gross revenues per leaf quality and in total.

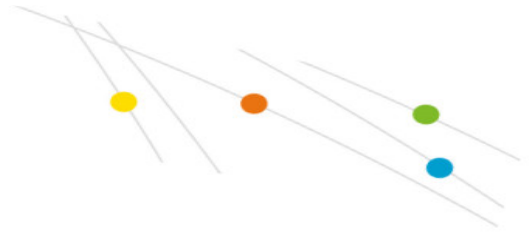


Table 3. Economic analysis of the two fertiliser treatments.

Economic analysis Análisis económico	Grower Productor (1) Granular manual application Granular aplicación manual	SQN (2) SPN with sprinkler NVE con aspersor	Difference (2-1) Diferencia (2-1)	
Fertiliser cost Costos de fertilizantes	904 US\$	944 US\$	+40 US\$	+4 %
Gross income Ingresos brutos	6.942 US\$	8.064 US\$	+1.122 US\$	+16 %
Net income Ingresos netos	6.038 US\$	7.120 US\$	+1.082 US\$	+18 %
Cost : benefit - Costo : beneficio			1:27	



Figure 6. Among other benefits, the SQM treatment resulted in longer tobacco leaves and of better quality.

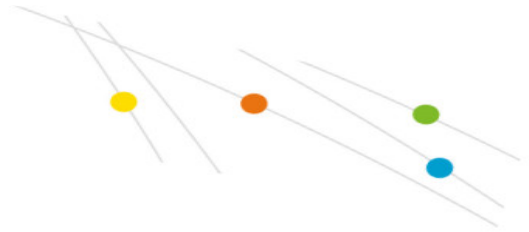


Figure 7. Tobacco leaf strings hung to dry. The SQM treatment resulted in 20% more leaf strings versus the control.



Grower - Productor



Figures 8 and 9. The results clearly show a positive effect of the SQM treatment on plant height. Pictures taken on 6th January 2011. The left picture shows the control (54 cm); the right one shows the SQM field (71 cm).