TWINN CROP TRIAL

Coffee: Ruiru, Kenya, 2010

INTRODUCTION

TwinN has been used on Muthaite Estate for three years. The Estate uses a mixture of conventional nitrogen fertiliser applications and a system of applications of TwinN to provide nitrogen nutrition to the coffee crop. This system is used to reduce fertiliser costs, increase yields, increase tree health and increase soil quality. These results are a report on commercial use of TwinN in coffee.

KEY RESULTS

- TwinN increased yields by 50-180% compared to the conventional fertiliser program.
- TwinN greatly reduced the cost of production.
- TwinN improved the percentage of AA grade beans.
- Workers reported dark green leaves, uniform flowering and full bearing at fruiting in TwinN plots compared to the conventional plots.

Table 1: Costs and yields from four nutrition programs

Block No.	Fertiliser applied	Quantity	Unit price (ksh)	Ha applied	Total Cost (ksh)	Tons picked	T/ha	Cost/Ton (ksh)
B2(A)	CAN	33 bags	1603	3.89	52,899 (USD640)	3.29	0.85	16,079 (USD195)
B2(B)	NPK(22:6:12)	38 bags	2567	3.57	97,546 (USD1180)	3.85	1.08	25,337 (USD306)
G2 SL	TwinN (3 apps) Vitazyme	3X1ha vial 3 X 1Lt	3400 1550	1.2	14,850 (USD180)	1.82	1.52	8,159 (USD99)
G2 R11	TwinN (1 app) Vitazyme	1X 1 ha vial 1X 1Lt	3400 1550	0.5	4,950 (USD60)		2.4	4,125 (USD50)

Table 2: Grades of coffee beans from TwinN and chemical fertiliser plots

GRADE	AA %	AB %
B2(A)	12	48
B2(B)	16	51
TwinN +Vitazyme (average)	20	44

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NUTRITION PROGRAM

B2(A) & B2(B): Rock phosphate plus CAN or NPK 22.5.12 top dress applied in three splits: before flowering, at flowering and at fruit expansion.

TwinN + Vitazyme: Rock phosphate plus TwinN plus Vitazyme. In G2 SL TwinN and Vitazyme were applied before flowering, at flowering and at fruit expansion. In G2 R11 they were applied before flowering. Applications were made by backpack.

These nutrition programs have been used for three consecutive years.

CONCLUSION

The TwinN plus Vitazyme blocks produced higher yields of higher grade coffee at lower cost. Use of TwinN will promote a more vigorous and balanced soil microflora and decrease disease pressures from soil pathogens. Decreased nitrogen fertiliser applications will increase soil quality and health over time.