

Cassava micro, OM, etc. fertilizer

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1.3 Table 7. Effect of K, Mg and S in Guangxi

TM	Fertilizer (kg/ha)	Fresh yield (t/ha)	% CK
NP (CK)	150N, 67.5P ₂ O ₅	25.4	
NP + KCl	150N, 67.5P ₂ O ₅ , 135K ₂ O	31.4	123.6
NP + SPM	150N, 67.5P ₂ O ₅ , 135K ₂ O 67.5Mg, 135.0S	34.0	133.9

1.3 Table 8. Effect of K, Mg and S in Guangxi

1991		1992	
TM	Fresh yield (t/ha)	TM	Fresh yield (t/ha)
NP	16.1	NP	8.4
NPK ₁	20.9	NPMg	9.5
NPK ₁ Mg	23.7	NPK ₁	17.6
NPK ₂	23.7	NPK ₁ Mg	18.7
NPK ₂ Mg	27.8		

1.4 Table 9. Micro nutrition in Hainan, 1992, 2006.

Sample	(me/100g)		(ppm)				
	Ca	Mg	B	Zn	Mn	Cu	Fe
NPK in 1992	0.65	0.11	0.30	0.52	20.0	0.32	18.0
N ₀ P ₀ K ₀ in 1997	0.45	0.15	0.13	0.35	12.1	0.15	19.7
N ₀ P ₀ K ₀ in 2006	0.35	0.09	0.26	0.63	16.1	0.11	15.2
N ₃ P ₃ K ₃ in 1995	0.66	0.10	0.23	0.58	14.5	0.18	15.6
N ₃ P ₃ K ₃ in 2002	0.74	0.14	0.50	0.71	13.0	0.12	13.7
FPR in 1995	1.44	0.72	0.33	1.51	52.5	0.24	15.7
FPR in 1999	1.01	0.35	0.62	1.14	45.8	0.26	24.6

1, Ca, Mg, Zn, Cu Nutrient Fertilizer:

- Some secondary-micro Nutrient Fertilizer trial was not good yield effect .
- Ca, Mg, Zn, Cu fertilizer trial on continuous cropping 15 yeas cassava in CATAS: Compare to without fertilizer (CK) , **Mg fertilizer increased 14.3% FRY and 10.6% SY** when soil exchangeable Mg (12.2 mg/kg) was very low nutrition; but Ca, Zn and Cu fertilizer could not increased FRY and SC when soil exchangeable Ca (130.6 mg/kg), available Zn (0.74 mg/kg) and Cu (0.11 mg/kg) were low nutrition.
- According to the soil survey, soil exchangeable Mg were very low nutrition in many traditional cassava production area in Guangxi and Hainan Province, it need to apply Mg fertilizer. **Soil exchangeable Ca, available Zn, Mn, Cu and B were very low or low nutrition on some cassava area** in Guangxi or Hainan Province, it needed to pay attention.

1.5 Table 10. Bio-organic fertilizer in Nanning 2004-2005.

Bio-organic fer. (kg/ha)	FY (t/ha)	SC (%)
0 (CK)	28.6 eE	32.3
450	31.0 dD	32.7
600	45.0 bB	33.2
750	50.0 aA	33.5
900	35.3 cC	31.8

- **Note: Bio-organic fertilizer is organic matter $\geq 25\%$, N+P₂O₅+K₂O $\geq 6\%$, amount of living effective bacteria ≥ 20 million/g.**

1.6 Table 11. Different applied fertilizer time in Nanning 1997-1998.

TM (% total fertilizer)	FY (t/ha)	SC (%)
50% Basic, 25% seeding, 25% expanding.	33.2bB	32.9
25% Basic, 50% seeding, 25% expanding	42.4aA	31.9
25% Basic, 25% seeding, 50% expanding	30.2cC	28.2
No fertilizer (CK)	15.4dD	30.6

- **Ca, Mg, S, B, Zn and Cu:** selected apply in some region according to local soil analysis.
- **Apply suitable:** SPM, Ca Mg of Phosphate, Bio-organic fertilizer in some years.
- **Apply basic fertilizer:** as early as apply fertilizer in seeding cassava period.

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- According to the soil survey, soil exchangeable Mg were very low nutrition in many traditional cassava production area in Guangxi and Hainan Province, it need to apply Mg fertilizer. Soil exchangeable Ca, available Zn, Mn, Cu and B were very low or low nutrition on some cassava area in Guangxi or Hainan Province, it needed to pay attention.

2, Returning Shattered Cassava Stalks on Field

- Applying shattered stalks significantly increased FRY than CK.

Dry stalk (kg/ha)	FRY		DM (%)
	(t/ha)	of CK	
0 (CK)	34.6		39.1
600	43.7*	126.0	38.1
900	40.0*	115.6	37.2
1200	41.8*	120.8	37.4



5 Plant growth regulators

Table 18. Effect of plant growth regulators in Nanning 1999 and 2000.

plant growth regulators	Germination after plant (day)	Roots /plant	FY (t/ha)	SC (%)
Homobrassinolide	8	9.8	61.8aA	29.5
Multi-effect-agent	9	9.6	61.1aA	29.3
Ethrel	11	8.5	55.0bB	31.4
Multi-effect-triazole	11	8.3	54.1bB	30.8
Pure water (CK)	12	7.8	50.7cB	28.6

