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ACIAR Cassava Value Chain and Livelihood Program

Developing value-chain linkages to enhance the adoption of profitable and sustainable cassava production systems in Vietnam and Indonesia AGB/2012/078

Final Review Meeting

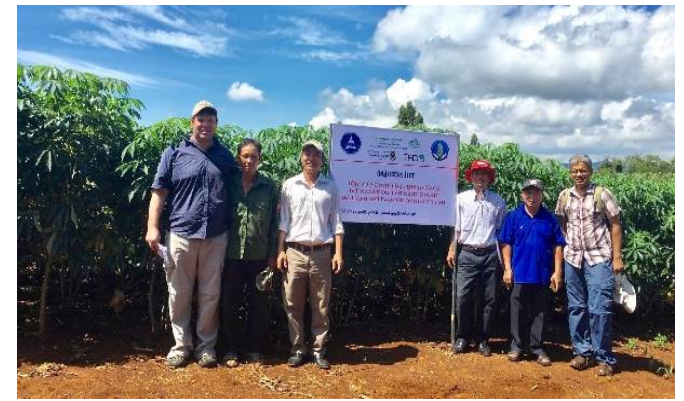
AGRONOMIC RESULTS FROM DAKLAK



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1. Variety evaluation



2. Fertilizer and density experiment



3. Intercropping and Legumes



4. Pests and disease



1. Variety evaluation

Table 1.1 Fresh root yield and starch content of cassava varieties on basalt soil

S/No	Name	Root yield (ton/ha)	Starch yield (%)
1	HLS11	45.13	29.07
2	KM419	45.03	29.15
3	HLS14	44.50	30.50
4	HLS12	43.44	29.11
5	HLS10	42.07	28.06
6	KM505	38.30	25.81
7	KM140	36.53	27.53
8	RAYONG 9	36.43	28.47
9	KM94	34.37	27.95

Table 1.2: Fresh root yield and starch content of cassava varieties on acrisol soil

S/No	Name	Root yield (ton/ha)	Starch yield (%)
1	HLS10	36.40	30.01
2	KM419	33.70	30.40
3	HLS11	32.70	31.00
4	KM140	32.20	30.00
5	KM94	29.0	30.30
6	KM505	26.60	29.30
7	RAYONG 9	24.57	29.37



Select the best from varieties evaluation: HLS11 and KM419



Rayong: 36/24

HLS10: 42/30

HLS11: 45/31



KM 419: 45/31ton

KM 505: 38/25 ton/ha

KM 140: 36/26 ton/ha

2. Fertilizer and density experiment

Table 2.1 Fresh root yield and starch content of DENSITY AND FERTILIZER TRIAL on acrisol soil

Best: Density: (1.0m x 0.8m); 12,500 plants/ha (control)

Fertilizer: 108 kg N + 72 kg P₂O₅+ 108 kg K₂O (20% increase over control)+ 1 ton biofertilizer

S/No	Name	Root yield (ton/ha)	Starch yield (%)
1	KM419	40.60	31.00
2	HLS11	37.35	31.28
3	HLS12	29.09	30.06
4	HLS14	36.92	28.15





**Table 2.2. Fresh root yield and starch content of DENSITY
AND FERTILIZER TRIAL on basalt soil**

Best: Density: (1.0m x 1.0m); 10,000 plants/ha

Fertilizer: 90kg N + 60 kg P₂O₅+ 90 kg K₂O (control) + 1 ton
biofertilizer

S/No	Name	Root yield (ton/ha)	Starch yield (%)
1	KM419	40.50	31.52
2	HLS11	42.60	32.03
3	HLS12	43.45	30.15
4	HLS14	36.76	26.57





3 Implementing intercropping 2018-2019

Table 3.1 Fresh root yield and starch content and total profit from KM419 intercropped with legumes in Krong Bong 2018 -2019

Treatment	Root yield (ton/ha)	Starch yield (%)	Total profit (mill/ha)
KM419 only	25.90	28.74	34.40
KM419 + red bean	33.77	29.73	64.96
KM419 + cow pea	31.70	29.63	62.05
KM419+ mungbean	29.06	29.14	47.42
KM419+ peanut	30.50	29.36	58.42

Implementing intercropping with KM 419 Chưkty commune 2018-2019



Table 3.2 Fresh root yield and starch content and total profit from HLS11 intercropped with legumes in Krong Bong 2018

Treatment	Root yield (ton/ha)	Starch yield (%)	Total profit (mill Đ/ha)
HLS11 only	23.33	29.59	27.98
HLS11 + red bean	27.47	30.30	49.36
HLS11 + cow pea	27.40	30.36	48.54
HLS11 + mungbean	25.07	29.97	37.45
HLS11+ peanut	26.73	30.04	48.71

Implementing intercropping with HLS11 Chưkty commune 2018-2019



Table 3.3 Fresh root yield and starch content of HLS11 intercropped with peanut in KrongBuk 2019

Treatment	Peanut yield (kg/2,000 m ²)	Root yield (ton/ha)	Starch yield (%)
HLS11 (10,000 plants/ha) + peanut (fertilizer)	120	42.60	32.03
HLS11 (10,000 plants/ha) + peanut (No fertilizer)	90	35.44	32.02
HLS11 (12,500 plants/ha) + peanut (No fertilizer)	110	40.05	32.01
HLS11 (12,500 plants/ha) + peanut (No fertilizer)	80	38.12	32.01
HLS11 (15.625 plants/ha) only	-	37.35	32.02



4 Pests and disease

Table 4.1 CMD in DakLak province

No	Districts	Area (ha)	Area of CMD (ha)	(%)
1	TP. BMT	472	0	
2	Ea H'leo	3,893	0	
3	Ea Súp	8,080	1071.46	30 - >70%
4	Krông Năng	203	0	
5	Krông Búk	633	0	
6	Buôn Đôn	1,916	13.1	>70%
7	Cư M'Gar	710	0	
8	Ea Kar	5,493	0	
9	M'Đrắk	5,084	0	
10	Krông Pắc	881	0	
11	Krông Bông	8,363	236.44	70 -100%
12	Krông Ana	528	0	
13	Lăk	868	0	
14	Cư Kuin	30	0	
15	Buôn Hồ	20	0	
	Total	36,174	1,321	

Table 4.2 Evaluation of CMD and witches broom tolerance of elite cassava (IaRve Commune – Easuop District)

Treatment	CMD (%)	witches broom (%)	Root yield (tons/ha)	Starch yield (%)
HLS11 (CT1)	0.50	0.0	19.60	27.45
HLS11 (CT2)	0.20	0.0	28.40	28.03
HLS12 (CT1)	0.30	0.0	20.13	28.12
HLS12 (CT2)	0.10	0.0	29.52	28.45
HLS14 (CT1)	0.25	0.0	21.32	29.20
HLS14 (CT2)	0.09	0.0	30.15	29.70

- CT1: Density (0.8m x 0.8m); 15,625 plants/ha; Fertilizer (250 kg NPK 15:5:20 + 100 kg Van Dien Phosphorous fertilizer)

- CT2: Density (0.8m x 0.8m); 15,625 plants/ha; Fertilizer (90 kg N + 60 kg P₂O₅ + 90 kg K₂O (control) + 1 ton biofertilizer)

Table 4.3 Evaluation of CMD and witches broom tolerance of elite cassava (IaRve Commune – Easuop District)

Treatment	CMD (%)	Witches broom (%)	Root yield (ton/ha)	Starch yield (%)
HLS11	5.00	0.0	25.34	27.50
HLS12	4.00	0.0	27.26	28.00
HLS14	3.00	0.0	29.32	29.00

: Density (0.8m x 0.6m); 20.833 plants/ha; Fertilizer (180 kg N + 120 kg P₂O₅ + 180 kg K₂O)





Table 4.4 Evaluation of CMD and witches broom tolerance of elite cassava (Chukpo Commune – KrongBuk District)

Treatment	CMD (%)	witches broom (%)	Root yield (ton/ha)	Starch yield (%)
HLS12 (CT1)	0.0	0.0	43.45	30.15
HLS12 (CT2)	0.0	0.0	42.17	30.14
HLS14 (CT1)	0.0	0.0	36.76	26.57
HLS14 (CT2)	0.0	0.0	35.78	26.44

- CT1: Density (0.8m x 0.8m); 15,625 plants/ha; Fertilizer (90 kg N + 60 kg P₂O₅ + 90 kg K₂O (control) + 1 ton biofertilizer

- CT2: Density (0.8m x 0.7m); 17,857 plants/ha; Fertilizer (90 kg N + 60 kg P₂O₅ + 90 kg K₂O (control) + 1 ton biofertilizer



Table 4.5 Evaluation of CMD and witches broom tolerance of elite cassava (Hoa Le Commune – Krong Bong District)

Treatment	CMD (%)	witches broom (%)	Root yield (ton/ha)	Starch yield (%)
HLS12 (CT1)	0.0	0.0	33.17	30.06
HLS14 (CT2)	0.0	0.0	41.23	28.15

- CT1: Density (0.8m x 0.8m); 15,625 plants/ha; Fertilizer (90 kg N + 60 kg P₂O₅ + 90 kg K₂O (control) + 1 ton biofertilizer
- CT2: Density (0.8m x 0.7m); 17,857 plants/ha; Fertilizer (90 kg N + 60 kg P₂O₅ + 90 kg K₂O (control) + 1 ton biofertilizer



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