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# STAKEHOLDER BRIEF

ACIAR Cassava Value Chain and Livelihood Program

## Cassava Varieties Recommended for Dak Lak, Vietnam



### Introduction

Project AGB/2012/078 “Developing value-chain linkages to enhance the adoption of profitable and sustainable cassava production systems in Vietnam and Indonesia” aims to increase the profitability and sustainability of smallholder cassava production in Vietnam and Indonesia by developing effective linkages between value-chain actors to increase the adoption of improved technologies. In Vietnam the project activities were implemented in Daklak and Son La from 2017-2020 by Tay Nguyen University, NOMAFSI , the International Tropical Agriculture Center (CIAT) and the University of Queensland (UQ) with financial support from ACIAR.



Dak Lak is a province in the Central Highland Region of Vietnam and one of the top three provinces in Vietnam in terms of cassava production volume. Provincial cassava production increased 40 percent over the 10 years from 2008 (509,800 tons) to 2018 (716,400 tons) as a results of expansion of the production area from 25,600ha to 38,700 ha. During the same time period, average fresh root yield declined 7 percent from 19.9 tons/ha to 18.5tons/ha.

The most common cassava variety currently planted in Dak Lak is KM94 (KU50). KM94 accounts for more than half of the total

production area in Dak Lak, and has been produced in the province for more than 20 years. The variety has become degraded and is more susceptible to pests and diseases such as witches broom and cassava mosaic disease. Farmers usually reserve stems after harvest for planting in the following season and this also tends to result in declining yields as well.

Using varieties that have good potential traits for yields is very important to contribute to the improvement of cassava farming productivity. To identify potential varieties that would be adaptable to the agro-climatic conditions of Dak Lak, a total of 7 varieties were evaluated during the project timeframe. This brief presents results from cassava variety evaluation trials and provide recommendations to cassava stakeholders in Dak Lak regarding the varieties with the most potential.

## Experimental Results

Six new improved varieties and KM94 were evaluated in both acrisol and ferasoil base in Krong Bong and Eakar district. They were including KM94, KM140, KM505, KM419, HLS10, HLS11 and Rayong 9. These were planted at density of 12,500 plants/ha (1m x 0.8m) and with fertilizer of 90N + 60P<sub>2</sub>O<sub>5</sub> + 90K<sub>2</sub>O and 1 ton of bio-fertilizer per hecta.

In Krong Bong, the three best varieties were KM419, HLS11 and HLS10. These varieties had good growth and were least susceptible to cassava witches broom and pink mealybugs compared to KM94 and the other three varieties.

Fresh root yields of three varieties range from 36 tons/ha to more than 42 tons per hectare which is at least 22 percent higher than KM94 grown in the same conditions. In terms of starch yield these three varieties are the best bet as well as their starch yield is between 23.39% and 37.09% higher than KM94.



In Eakar, KM419 and HLS10 had good growth and were least susceptible to pests and diseases in comparison with other varieties. In terms of yields, the best varieties were KM419 and HLS11. They have fresh root yields of more than 33 tons/ha which is at least 16.62 percent higher than KM94. These two varieties can give yields of more than 10 tons of starch per hectare – at least 17 percent more than than the starch yield of KM94.

## Recommendations

In Krong Bong it is recommended that farmers use KM419 and HLS11 varieties on both acrisol soil and ferrasol soil because these two varieties can generate the highest levels of profits per hectare. At a farm gate price of 1,900VND/kg, the net revenue generated from KM419 per hectare is 57 million VND on ferrasol soil and 32 million VND on acrisol soil while HLS11 could generate 58 million VND per hectare on ferrasol soil and 32 million VND on acrisol soil.

In Eakar, it is recommended that farmers use KM419 and HLS10 because these two varieties could generate the highest net revenue - 32.5 million VND and 34.7 million VND per hectare respectively.

This stakeholder brief summarises issues, findings and key policy recommendations related to the use of cassava varieties in Dak Lak, Vietnam from ACIAR Project AGB/2012/078 *Developing value-chain linkages to enhance the adoption of profitable and sustainable cassava production systems in Vietnam and Indonesia*. The project is funded by ACIAR and implemented by Tay Nguyen University, CIAT and the University of Queensland. The intended audience of this brief is the Ministry of Agriculture and Rural Development, Local Government and extension centres and the private sector stakeholders in the cassava value chains.

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