PROMISING CASHEW CULTIVARS FOR SOUTHEASTERN REGION

Cashew is one of major industrial crops in Vietnam, as well as an important source of income of smallholders. The total growing area was about 450 thousand hectares, and the export value reached $ 504 millions in 2006. At present, the average nut yield is only 1.0-1.1 ton/ha over the whole country, while the potential productivity of new cultivars in good cultivation and management practices can reach more than 3 tons/ha.

Plant canopy and flush flowering of TL2/11

To improve the national economy, especially in the rural areas, the Ministry of Agriculture and Rural Development of Vietnam has set the cashew development as a national priority. Cashew research program was continuously carried out with the emphasis on selecting new cultivars of high nut yield, good kernel quality, and adapted well to various agro-ecological conditions of Southeastern region.

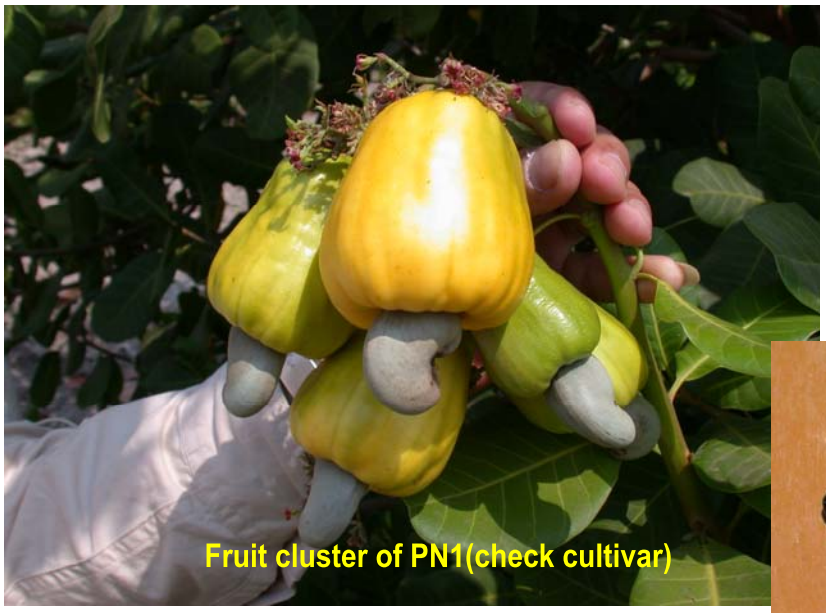
Twenty kilograms of seeds of 3 cashew varieties, namely SK A, SK 60-1 and SK 60-2, collected from a clone garden at Horticultural Research Institute (HRI) of Thailand were introduced and planted in Hung Loc Agricultural Research Center (HARC) and An Vien village, Trang Bom district, Dong Nai province in 1996. Five other promising cultivars, including SK13/12, SK16/18, SK60/1, SK60/2 and Sirachai 25 (SK 25) were also introduced from Thailand and evaluated in 2000. Early Selection Method was used to reduce the selection cycle. After evaluating in collection garden, twelve cultivars including TL2/11, TL3/5, TL3/9, TL3/10, TL6/3, TL6/18, TL8/9, TL10/20, TL11/2, TL13/1, TL18/10, and TL18/12 were selected and tested in yield trials (YT) and regional yield trials (RYT) from 2001 to 2006.

Three cultivars, namely TL2/11, TL6/3, and TL11/2, gave higher or equal nut yield to the check cultivar PN1 at two YTs in Trang Bom and Long Thanh districts, Dong Nai province (Fig. 1).

Three cultivars, TL2/11, TL6/3 and TL11/2, showed the same trend in nut yield from four RYTs conducted in Binh Thuan, Tay Ninh, Binh Phuoc and Lam Dong provinces (Fig. 2). Besides high nut yield, these

Fruit cluster of TL11/2 cultivar

cultivars had exhibited large nut sizes. TL2/11 had low kernel recovery ratios in some harvests, however, these ratios passed the selection criterion and export processing requirement. Especially, the stem height of these new cultivars was shorter than that of PN1, and the compact canopy of TL11/2 and TL2/11 is interesting cashew farmers.



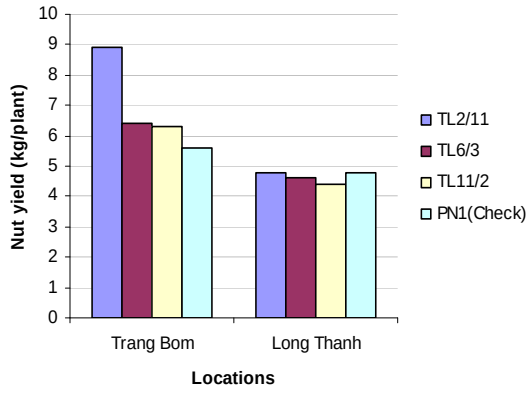


Fig. 1 Nut yield of 3 promising cashew cultivars at 4 years after planting from YTs in Dong Nai province.

After three harvests, 3 cultivars TL2/11, TL6/3, and TL11/2 were selected and highly recommended for temporary cultivar approval.

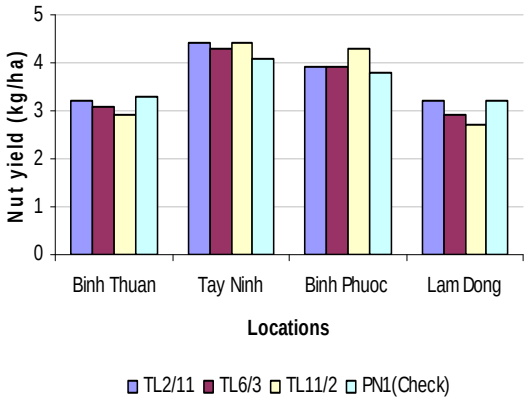
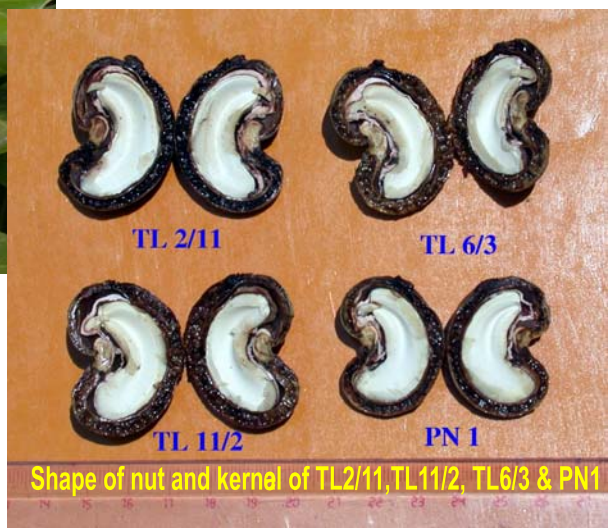


Fig. 2. Nut yields of 3 promising cashew cultivars at 3 years after planting from RYTs in Binh Thuan, Tay Ninh, Binh Phuoc and Lam Dong provinces.



Three selected cultivars performed the following characteristics:

- First flowering: 18 months after planting;
- High nut yield: 390-430 kg/ha, 880-1.080 kg/ha and 1.060-1.370 kg/ha with a density of 200 plants/ha at 18, 30 and 42 months after planting, respectively;
- Kernel recovery percentage: 27.8 to 30.4%;
- Nut size: 140-146 nuts/kg;
- Good growth, short stem and compact canopy; and
- Tolerant to insect pests and diseases.

Results of nine demonstration farms showed that nut yields of TL2/11, TL6/3, and TL11/2 can reach 1.6-2.5 tons/ha at 4 to 5 years after planting.

Till mid-2007, 235 hectares were grown with these new cashew cultivars in Dong Nai, Ba Ria-Vung Tau and Binh Phuoc provinces.