

5. *New varieties*

Main achievements:

In Thailand farmers continue to test new lines and varieties developed by the Dept. of Agriculture, but about 87% (more than 1 million ha) of the total cassava area in the country is already planted with new high-yielding varieties.

In Vietnam 37 FPR variety trials are being conducted in 12 sites, and more and more farmers are now planting improved varieties, especially in the south.

In five pilot sites in North Vietnam, the adoption of improved technologies, including new varieties, resulted in gross incomes that were 4-5 times higher than those reported in 1994/95 at the beginning of the project.

Rationale: Planting new higher-yielding varieties is the easiest and most cost-effective way of increasing farmers' income. For that reason farmers are always interested in trying out new varieties. FPR variety trials are thus a good entry point for getting farmers interested and involved in other types of trials, such as erosion control and fertility maintenance.

Outputs: Tables 13 and 14 are examples of FPR variety trials conducted in Hong Ha commune in Thua Thien-Hue province of Vietnam, and in Kongba village of Hainan province of China, respectively. In Hong Ha commune the yields of some introduced varieties were double those of the local variety Nep. The latter is a very tasty but low yielding eating variety. Farmers clearly showed a preference for KM 98-1 and SM1447-7. The former is sweet and high yielding but not quite as tasty as Nep or Vinh Phu.

Table 13. Results of FPR variety trials conducted by a farmer in Thuong Long village, Hong Ha commune, A Luoi district, Thua Thien-Hue, Vietnam in 1999 and 2000.

| Varieties | Root yield (t/ha) | | Starch content (%) | | Farmers' preference (%) | |
|----------------|-------------------|------|--------------------|------|-------------------------|------|
| | 1999 | 2000 | 1999 | 2000 | 1999 | 2000 |
| 1. Nep (check) | 18.9 | 15.6 | 29.8 | 28.8 | 69.2 | 67 |
| 2. Vinh Phu | 23.9 | 24.2 | 30.6 | 30.5 | 30.7 | 35 |
| 3. KM94 | 25.7 | 24.9 | 31.1 | 31.8 | 7.1 | 0 |
| 4. KM98-1 | 33.6 | 34.8 | 30.8 | 31.1 | 46.1 | 100 |
| 5. KM99-3 | 21.7 | 22.5 | 31.5 | 30.8 | 38.4 | 0 |
| 6. KM99-5 | 23.8 | 29.4 | 30.0 | 30.1 | 58.4 | 86 |
| 7. SM1447-7 | 29.8 | 30.3 | 29.9 | 30.3 | 38.4 | 100 |

Table 14. Results of four FPR variety trials conducted by farmers in Xinglian village, Taiping town, Wuming county, Guangxi, China in 2000.

| | Mr. Pan | Mr. Lu | Mr. Li | Mr. Li | Av. | Observations |
|----------------|---------|--------|--------|--------|------|-------------------|
| SC 201 (check) | 31.4 | 26.8 | 27.5 | 28.4 | 28.5 | |
| GR 891 | 28.0 | 37.5 | 31.4 | 29.4 | 31.6 | Sweet, good taste |
| GR 911 | 33.2 | 38.2 | 36.7 | 40.6 | 37.2 | |
| SM 1600 | 25.4 | 28.0 | 32.4 | 32.6 | 29.6 | |
| SM 1741 | 29.0 | 28.5 | 30.2 | 28.2 | 29.0 | |
| OMR 36-31-1 | 44.9 | 41.3 | 35.8 | 39.5 | 40.4 | |
| OMR 36-34-4 | 33.9 | 32.8 | 29.8 | 31.8 | 32.1 | |

In Wuming county of Guangxi, China, four farmers conducted FPR variety trials on rather fertile lowland soils. Yields of all varieties were high, but those of OMR36-31-1 (selected from sexual seed from Thailand) and GR 891 (selected from seed from CIAT/Colombia and recently released as a new variety) were clearly superior. These and other varieties were further tested in large plots by officials from the provincial government. OMR36-31-1 produced the second highest fresh root yield and the highest starch yield. The highest fresh root yield (42 t/ha) was obtained with Nanzhi-199, a newly released variety from the South China Institute of Botany, selected from tissue culture plants introduced from CIAT/Colombia more than ten years ago.

Tables 5 and 6 show that in 2001 FPR variety trials are being conducted by 16 farmers in 10 sites in Thailand, and by 37 farmers in 12 sites in Vietnam. New varieties are now planted in over 1 million ha (87% of the cassava area) in Thailand, and also in large areas (about 60,000 ha) in southern Vietnam. In north Vietnam the planting of new varieties is widespread only in certain areas, mainly in those villages involved in the Nippon Foundation project. Table 15 summarizes the extent of dissemination of new technologies, such as new varieties, intercropping, contour hedgerows and fertilizer application, in five pilot sites in north Vietnam. The cassava yields obtained with some of the new varieties was 50-60% higher than those of the local check, Vinh Phu, which also produced very high yields due to better fertilization and crop management. In 2000, the average gross incomes obtained from a large number of farmers' fields, ranging from 12.6 to 18.7 mil. dong/ha, was 4-5 times higher than those reported (3.4 mil. dong) in the same villages in 1994/95 at the start of the project.