

A 'Telong' and 'Jalomas': new high-yielding sweetpotato cultivars for processing into flour and food products

TWO SWEETPOTATO clones selected from seeds introduced from the Asian Vegetable Research & Development Center, Taiwan and the International Potato Center, Peru, were released as cultivars after rigorous evaluations at research stations as well as in farmers' fields. Evaluations against local check cultivars were carried out on different soil types, namely, sandy soils (tin-tailings and bris or sandy beach deposits), upland mineral soils and drained peat. Important selection criteria included high mean yield performance, and high root dry matter content.

The two cultivars, 'Telong' and 'Jalomas', showed good yield stability compared to the check varieties in different areas, and were especially well adapted to sandy soils. With the exception of the local check cultivar 'Ubi Biru', both 'Telong' and

'Jalomas' had a far higher root dry matter content.

'Telong' and 'Jalomas' have been successfully processed into sweetpotato flour, which can be used for the formulations of premix flours for a range of traditional Malay cakes, as well as for bakery products (bread, buns, muffins and cakes) and extruded snacks.

'Jalomas' has the extra advantage of carotenoids in roots, which add to the nutritive value of the food products. Up until now, these food products have been made mainly from imported ingredients such as wheat flour, white potato and corn. Substitution of these imported raw materials will save Malaysia a substantial amount of foreign exchange.

New source: **MARDI, Malaysia**

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Micropropagation of purple yam

RESearchERS Acedo and Labana of the Visayas State College of Agriculture, Leyte, Philippines, have developed a more efficient tissue culture technique for the micropropagation of two purple yam varieties, VU-2 and Kinampay. Nodal explants from greenhouse-grown plants were used. The recommended steps are as follows:

Tissue sterilization. Sterilize nodal segments, using benomyl as a dip and two-stage calcium hypochlorite (CaOCl₂) to minimize contamination.

Stock plant establishment. Use Murashige and Skoog basal medium to induce shoot and root formation.

Optimization of micropropagation. Use single nodal segments of stockplants to start as explants for multiplication. Increase sucrose level of the MS medium from 2% to 5% to enhance root and shoot

development. Production of complete plantlets also increases from 56% with 2% sucrose to 89% with 5% sucrose. The use of table sugar as sucrose substitute decreases the cost of micropropagation by about 18%. **Potting out.** Use either garden soil or a 1:1 combination of garden soil and river sand as potting medium to obtain 90-100% plant survival for VU-2 or 85-90% for Kinampay. After one month of incubation, transfer plantlets into pots.

News source: **The Philippine Council for Agriculture, Forestry and Natural Resources Research and Development**

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Use of absorption curves of nutritional elements by the soil to estimate the fertilizer demand of rice plants

THE ABSORPTION of nutritional elements by the soil largely affects the appropriate amount of nutrient elements to be applied to rice plants. Therefore, the absorption capacity of two kinds of soil in Dong Thap Muoi Plain in Vietnam was clarified. One is gray soil (Thionidystic Acrisols) and the other is active sulfate acid soil (Epiorthionic Thionic Flauvisols). Based on the experimental results, the following rates of application of major nutritional elements were recommended for rice plants.

Phosphorus: Gray soil, 80 kg/ha as P₂O₅; active sulfate acid soil, 120 kg/ha as P₂O₅.

Potassium: Gray soil, 46 kg/ha as K₂O; active sulfate acid soil, 30 kg/ha as K₂O.

Zinc: Gray soil, 30-45 kg/ha, active sulfate acid soil, 15-30 kg/ha.

Manganese: gray soil, 18-34 kg/ha; active sulfate acid soil, 18-26 kg/ha.

Copper: Gray soil, 6-16 kg/ha; active sulfate acid soil, 11-35.5 kg/ha.

News source: **Department of Agriculture and Forestry Extension, MARD**

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Indoor mass rearing and natural habitat restoration of yellow spotted longicorn beetle

YELLOW SPOTTED longicorn beetle (*Psacotha hilaris* Pascoe) is a rare insect species which survives in Korea only on Uleong Island. The species is a stem borer attacking mulberry tree (*Morus alba* L.) and fig tree (*Ficus carica* L.). An indoor mass-rearing technique for the beetle was developed as part of a study on how to restore the natural habitat of this endangered insect species.

For year-round rearing, an artificial diet was developed. It used mulberry stem powder as a cellulose base. With this new diet, the survival rate of the beetle was 67.5%. The rate of adult emergence also increased by 5%, compared to the emergence rate of larvae feeding on the existing diet. Cold temperatures were

used to break the hibernation of the species. The adults lay eggs below the bark of the stem. When the eggs hatched, the larvae were collected and reared on the artificial diet. Their food was changed every 4-5 days. They became fully grown adults in approximately 40 days (rearing conditions: 25°C, 60% R.H., photo-period 16L+8D). The beetles reared were tested for hibernation in their natural habitat. Field mortality and its causes will be measured in the natural habitat of Uleong Island.

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