

## Propagation of jackfruit seedlings

**J**ACKFRUIT is commonly propagated by seed, since vegetative propagation is difficult. Therefore, to provide high yielding varieties of jackfruit, a technique is needed for producing seedlings from seed. Research showed that seed from the end of the fruit germinates 3 days earlier than seed from the fruit nearer the stem. From evaluation, the best growth conditions consist of one night growth and seed of a medium size, using an uncut polybag 10 cm in diameter and 25 cm high. The best growing medium was a mixture of manure and soil at a ratio of 2:1 (v/v).

Rift grafting in the morning, at noon, and in the afternoon produced nearly the same results (45 %, 45% and 47.5% of seedlings). This method is an alternative to jackfruit propagation by rift grafting, and can speed up the production of seedlings from seed.

News source: **Assessment Institute of Agricultural Technology (AIAT), Karangploso, Indonesia**

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## One chemical component of an aggregation pheromone released by bean bugs attracts exclusively a parasitic wasp, without attracting bean bugs

**A**DULT males of bean bug (*Riptortus clavatus*), an important pest of soybeans, release an aggregation pheromone which attracts both adults (male and female) and nymphs. It also attracts a female wasp (*Ooencyrtus nezarae*) which parasitizes eggs of bean bugs, and is hence an important natural enemy of bean bugs.

This pheromone was found to be composed of three chemical components. One of these components, (E)-2-hexenil(Z)-3-hexenoate, was confirmed to have attractiveness exclusively to the parasitoid female wasps without attracting bean bugs.

In experimental soybean fields treated with the synthetic chemical component, parasitoid female wasps immigrated into the fields earlier than bean bugs, and the population density of wasps was higher than in control plots. This synthetic chemical component, therefore, may be used as a measure for biological control of bean bugs.

News source: **Kyushu National Agricultural Experiment Station, Japan**

For further information: Applied Entomology and Zoology 32(3), 504-507, 1997

## Development of cultural matrix for propagating rice seedlings

**D**UE TO THE difficulty in acquiring soil for rice nurseries in Taiwan, there is an urgent need for alternative cultural media. The Tainung No. 1 tray, recently developed by the Taiwan Agricultural Research Institute, is made out of soft cardboard. It has proved ideal for raising rice seedlings. Holes 0.4 cm in diameter were drilled in the tray at a spacing of 1 x 1 cm. By using the hydroponic culture method, the tray could be successfully substituted for soil in producing healthy rice seedlings. Seedling height, age, and dry weight measured at the transplanting stage indicated no significant difference between the Tainung No. 1 and conventional trays. In field experiments, the rate of missing hills after machine

transplanting was higher for seedlings from the Tainung No. 1 tray than for those from the soil tray, yet it still complied with the national standard (CNS). The agronomic and yield traits investigated throughout the whole growth course of the rice plants in the field were also comparable between the two treatments. The new tray has already been granted patent rights by authorities in Taiwan, Japan, and Korea.

News source: **Taiwan Agriculture Research Institute, Taiwan, ROC.**

For further information: J. Agric. Res. China 49(1), 1-11, 2000.

## Culture techniques for *Scylla* crabs

**SCYLLA CRABS** are a fisheries product with good prospects for future development, since they are consumed both domestically and also for export. As new market opportunities open up, we can expect an increase in the land potentially available as a *Scylla* habitat and knowledge of *Scylla* rearing. Morphologically and genetically, *Scylla* consists of three kinds: 1. *Scylla serrata* 2. *Scylla tranquebarica* 3. *Scylla oceanica*. There are three types of commercial

scale cultivation: mass rearing, fattening, and egg production. This paper discusses all three rearing types.

News source: **Assessment Institute of Agricultural Technology (AIAT), Mataram, Indonesia**

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## Microbial conversion of macroalgae into a detrital hatchery diet

**AT PRESENT**, most aquaculture systems are based on the principle of the grazing food chain, and fish culture starts with the culture of unicellular algae as fish feed. However, the mass culture of unicellular algae is technically difficult and labor intensive. A large number of collections of macroalgae-decomposing bacteria were screened. One strain was found to have strong activity in decomposing macroalgae thalli to produce algal detrital particles in a completely cell-detached form, namely, single cell detritus (SCD). SCD displays three characteristics which make it suitable for feed for aquatic hatchery species: 1) The size of SCD is in the range of 2-14  $\mu\text{m}$ , which is similar to that of unicellular algae. 2) The cell wall components of SCD are partially degraded, which facilitates digestion. 3)

Bacterial cells are attached to SCD, which modifies the algal detritus to protein-rich particles. The use of SCD as a potential hatchery diet instead of cultured algae was successfully demonstrated in feeding experiments using *Artemia*. The use of SCD diets in fish feeding regimes is an attempt to introduce the concept of the detrital food web to aquaculture systems. This could contribute to the development of sustainable fish nursery systems.

News source: **National Research Institute of Fisheries Science, Japan**

For further information: JARQ 33, 295-301, 1999

## Development Changes in Volatile Compounds of Paochung Tea During Storage

**C**hanges in the volatile compounds of tea are greatly affected by the temperature during storage. A total of 20~30 volatile compounds were identified in Paochung teas. One of these, dimethyl sulfide, was found to be the most abundant. In samples stored at 0 and 25°C, the levels of 3 components, e.g. dimethyl sulfide, ethyl acetate and trans-2-hexanal, decreased. In contrast, the levels of 5 components, acetic acid, propionaldehyde, 1-pentene-3-ol, n-capronaldehyde and 4-methyl-1,2-heptylamine, increased during storage. Apart from acetic acid, it is probably the

components which increase which are the source of the aged flavor. According to the results, it may be easy to distinguish between fresh and aged teas.

News source: Taiwan Tea Experiment Station,  
Taiwan ROC

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