

Pest management and control RODENTS

Squirrels as rodent pests of rice in Bangladesh

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Rats are important rice pests, especially in deepwater rice areas of Bangladesh, but

there has been no record of squirrels as rice pests. During a tour of southwestern Bangladesh in July 1979, we not only received reports of squirrel damage, but also observed a group of squirrels damaging the dryland aus rice crop in the Ganges-Kobadak project area, Kushtia district. The five-striped Indian squirrel *Funabulus pennati* Wroughton eats grain

the way rats do. It is important in three districts of Bangladesh — Kushtia, Jessore, and Khulna — bordering West Bengal, India. It has not been found in other Bangladesh districts except for one reference from Sylhet.

Other squirrel species, including the five-striped Indian squirrel, are serious pests of vegetables, fruits, and nuts. ■

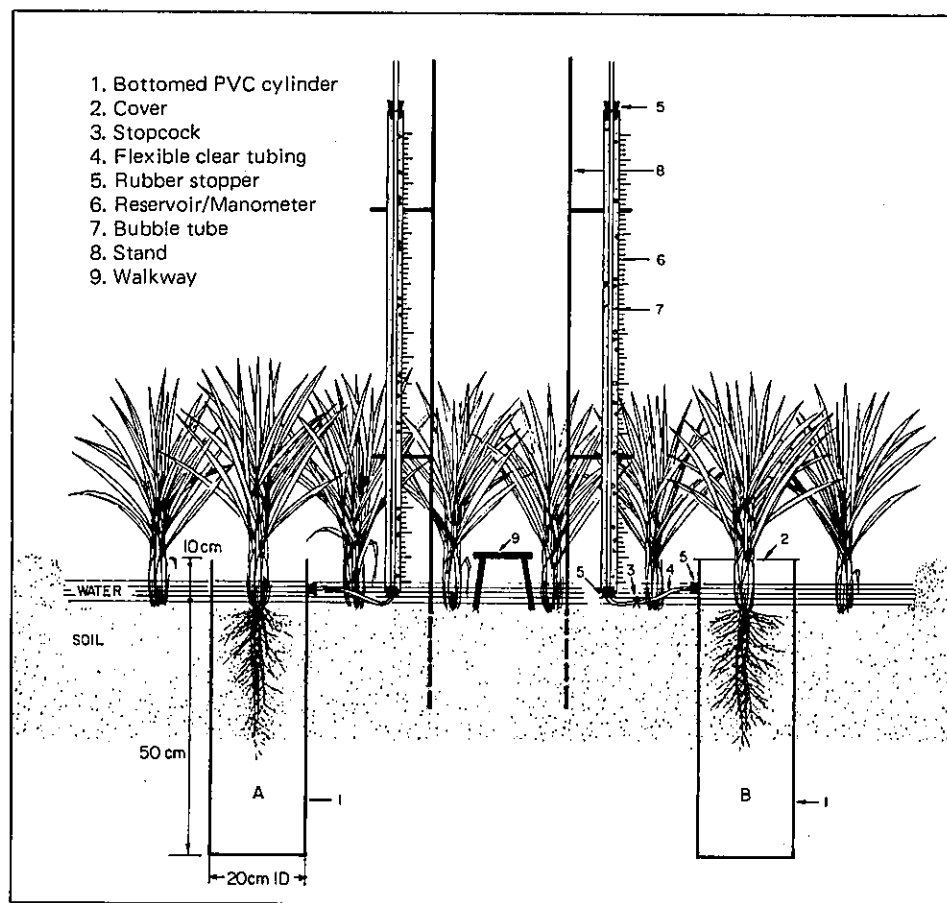
Irrigation and water management

A simple microlysimeter to measure transpiration and evapotranspiration in wetland rice fields

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The measurement of water loss as transpiration and evapotranspiration (ET) for each hour or each day in the field is difficult because the available methods are either expensive or inaccurate. A simple microlysimeter for use in irrigated wetland rice fields was designed and tested. It consists of a polyvinylchloride (PVC) cylinder, sealed at the lower end and connected to a water reservoir-cum-manometer with flexible tubing (see figure). Water in the microlysimeter was maintained at a constant level equivalent to the height of flooded water in the surrounding field with the Mariotte system. Measurement of the water loss from the reservoir-manometer represents the transpiration or evapotranspiration during a time interval.

The microlysimeters were calibrated in the laboratory, then installed in plots in a puddled field. The soil was excavated and the cylinders were installed 50 cm deep, leaving 10 cm of the cylinder's top portion above the soil surface (see figure). The cylinders were so installed that the rice hill in each lysimeter became an integral part of the 20- x 20-cm field



Cross section of installed microlysimeters for measuring evapotranspiration (A) and transpiration (B) in wetland rice.

planting pattern. Transpiration was measured by carefully covering the PVC cylinders with perspex sheets and checking the evaporation from the water surface in the cylinders. The trial was

replicated four times.

To verify the reliability and accuracy of the microlysimeter results, 40- x 40-cm tanks, each holding 4 hills, were installed along with these units in 1978-79.