IT IS an unfortunate paradox that yields of rice, *Oryza sativa* L., the staple food of Southeast Asia, are lowest in the area where the crop has been cultured extensively since ancient times and the plant exists in its greatest varietal diversity. Grain yields are usually about 1 to 1.5 tons per hectare per harvest compared with the 3 to 5 tons or more consistently produced in countries outside the cradle of rice ontogeny. These countries include Japan, Australia, Taiwan, the United States, and those of the Mediterranean region.

Although many environmental and cultural factors undoubtedly are associated with low yields in the tropics, it is the purpose of this paper to discuss the breeding of a type of rice plant capable of more effective performance under tropical conditions. It is the thesis of the writer that particular leaf and stem types are necessary for substantial gains in yield.

**Characteristics of Tropical Rice Plants**

Rice varies greatly in the morphology of the plant parts closely associated with yielding ability. This variability includes: obvious differences in culm thickness, height, number, and sturdiness; variation in leaf color, thickness, angle, length, and width; and differences in size and compactness of panicles. The most desirable plant type incorporates in one variety the particular association of morphological features that most effectively produce high yield. This raises the question: What would be a successful plant type for tropical rice areas? The *indica* types common to Southeast Asia generally are not successful when judged by the criterion of yield per unit area per unit of time.