Rice varieties differ in terms of rough rice yield, milling yield, susceptibility to diseases, and herbicide tolerance. This analysis quantifies each of these factors into either a cost or return value.

The analysis was based on rough rice yield and milling percentages obtained from Mississippi State University on-farm variety trials. The data are a two-year average for eight varieties (2,3). Two-year data are used since some of the varieties of interest to producers have only been in variety trials for two years. Value per bushel is based on loan rate calculations of $4.7745/bu for whole grains and $2.3895/bu for broken kernels (the equivalent of the USDA loan rate of $6.64/cwt for 55/70 milling).

Total specified costs were calculated using the Mississippi State Budget Generator (MSBG) and follow the general framework and procedures defined within the MSBG program (1,4). The cost of a fungicide treatment was added to the production costs when a variety was rated very susceptible to sheath blight or kernel smut. A fungicide treatment cost was added to production costs if the variety was rated susceptible to blast.

Based on production cost estimates, Priscilla had an advantage as it was the least expensive to produce at $364/acre. The hybrid lines Clearfield XL8 and XP710 were the most expensive to produce at $475 and $441/acre, respectively. The other varieties were grouped closely together in terms of production costs and ranged from $399 to $427. It should be noted that the production cost estimates include costs for grain hauling ($0.10/bu) and drying ($0.40/bu). Therefore, varieties having higher yields will incur higher costs in these categories.

Other major differences in cost of production include higher prices for hybrid seed, greater fungicide expense for varieties that are susceptible and differences in herbicide costs. Seed cost for Clearfield hybrids was estimated at $109/acre, non-Clearfield hybrid seed at $85/acre, and Clearfield non-hybrid at $77/acre. Conventional seed cost was $18/acre. Fungicide treatments for sheath blight and blast disease control were estimated at $27/acre. Applications of fungicides for kernel smut control were estimated at $15/acre. Clearfield varieties' herbicide costs were estimated at $77/acre. Herbicide costs for hybrid and conventional non-Clearfield varieties' herbicide costs were estimated at $59/acre.

When calculated at loan value, Cheniere had the highest value per bushel ($3.21) based on a milling grade of 63/72. Cocodrie and Clearfield 161 followed closely at $3.18/bu. XP710 and Priscilla provided the lowest value per bushel based on milling grade at $3.02 and $3.03 respectively.

When rough rice yields, milling grades, and cost of production are considered together, Cheniere provided the highest returns above specified costs at $175/acre. The other varieties followed: Francis at $171, Priscilla at $159, Cocodrie at $158, Wells at $152, XP710 at $150, Clearfield XL8 at $101, and Clearfield 161 at $48/acre.

Note: Specified costs do not include land rent, general farm overhead, nor returns to management.