

# Plant Description of 'Bowman' Rice Cultivar

July, 2008

'Bowman' rice is a long grain high yielding semi-dwarf cultivar released in March 2007 by Mississippi State University. Bowman was derived from the cross of Rosemount (CI9881/PI331581//L201)/863270 (Mars/Newrex//Tebonnet/Bellmont) made at the Delta Research and Extension Center. Conventional breeding procedures were used in its development. Bowman possesses the semi-dwarf plant type along with other morphological traits which broadly resemble southern U.S. long grain cultivars. In Delta wide trials, mature plant height of Bowman averaged about 39 inches and is nearly identical to the heights of Cocodrie, Sabine, and Priscilla. Bowman has good tillering ability and the culms have an erect growth habit. It is non-sensitive to photoperiod averaging about 88 days to 50% heading, which is similar to Cocodrie, Sabine, and Priscilla in four years of testing. The plants of Bowman compare favorably with Cocodrie for straw strength (lodging tolerance).

Following flowering, the upright flag leaves assume a more horizontal position during grain ripening and maturity. The relatively wider leaves form a full canopy. The leaves of Bowman are glabrous. The husks are straw colored at maturity. The mature grain is glabrous and awn-less under ordinary conditions.

The grain of Bowman is not scented, has a light brown pericarp, and is non-glutinous. The paddy or rough rice grains of Bowman averaged 9.3 mm in length compared to 9.4, 9.3, and 9.3 for Presidio, Sabine, and Cocodrie, respectively in 2006. Rough rice 1000 kernel weights for Bowman averaged 25.8 gm compared to 24.0 gm, 24.8 gm, and 25.0 gm for Cocodrie, Sabine, and Presidio, respectively. The milled whole grains have relatively low chalk and are translucent.

Bowman, like Cocodrie and Dixiebelle, has 2 to 3 percent higher apparent amylase than conventional long grain cultivars. Bowman, like Dixiebelle, has a higher amylographic viscosity value than conventional long grain cultivars. This combination of attributes are indicative of Bowman having superior grain cooking and processing qualities like Dixiebelle which are desired in the parboiling, canning, and quick-cooking segments of the industry.

The reasonably good uniformity among the 2006 grown head-rows suggested the reconstituted cultivar should be relatively stable. The initial foundation seed field of Bowman was inspected and rouged of observable atypical plants several times during the 2007 crop season. Possible plant trait variations either singly or in some combination may include height, heading/maturity, grain type and shape, hull color, awns, glabrous or pubescent plants, and purple colored plants. Atypical plants could appear in Bowman. Planned employment of routine rouging of head-rows and foundation seed fields should steadily eliminate the presence of variants and/or off-types. Total variants and/or off-types numbered one or less per 5,000 plants.

The original breeder seed of Bowman tested negative in official private laboratory tests for the presence of Liberty linked traits using the 35S bar protein. The same seed source of Bowman tested negative for the presence of red rice in official state tests.

This description of Bowman rice may be amended depending on further field observations.