

## A Conservation Plant Released by The Natural Resources Conservation Service Jamie L. Whitten Plant Materials Center, Coffeeville, MS

# 'CHIWAPA' billion-dollar grass

## *Echinochloa frumentacea* Link

'Chiwapa' billion-dollar grass (*Echinochloa frumentacea* Link) was released in 1965 by the USDA-NRCS Jamie L. Whitten Plant Materials Center (PMC), Coffeeville, MS in cooperation with the Mississippi Agricultural and Forestry Experiment Station.

### Description

Chiwapa billion-dollar grass is an introduced, warm season annual grass that is closely related to barnyard grass (*Echinochloa crus-galli*). It is a leafy, bunch grass that stands erect and can grow 1 to 8 feet in height depending on available moisture and fertility. The seedhead is a compact panicle-type inflorescence 4 to 8 inches long, purplish in color, with awnless seed. Conversely, barnyard grass has seed with conspicuous awns and a more open branched panicle. Billion-dollar grass produces a greater seed yield than barnyard grass. There are approximately 155,000 seeds per pound.

### Alternate Names

Japanese millet, Japanese-millet, billion-dollar grass

### Source

Chiwapa is a direct increase of the original plant identified in a planting of *Setaria italica* that originated from India.

### Conservation Uses

Chiwapa is an exceptional forage and wildlife plant. Seed is one of the choice foods of gadwall, mallard, wood duck, teal, and widgeon and is also utilized by upland and non-game game birds. Chiwapa can be used as a conservation cover for erosion on moist soil units. It can also be used as livestock forage.

### Area of Adaptation and Use

Chiwapa is adapted to moist or wet soils throughout the southeastern region of the country. It can withstand considerable flooding after the plants are established. It can grow on upland sites, but plant vigor and seed production are drastically reduced as compared to moist soil sites.

### Establishment and Management for Conservation Plantings

Chiwapa recommended planting dates are late April through June 15. Production fields should have a prepared seedbed or be smooth enough to allow for no-till. Wildlife plantings can be planted by drawing down water level in seedbed to expose mud flats or prepare a clean, firm seedbed by disking and harrowing. Broadcast seed on exposed mud flats or disk dry land. Broadcast seeding rate is 12-18 lb/acre or 10-15 lb/acre drilled. Optimum row width spacing for drill seeding Chiwapa is 7 to 10 inches. Wider row width may increase plant lodging as well as reduce weed control through lack of canopy closure. Seed should not be covered by water while germinating, but after growth starts the plants will tolerate flooding ¼-½ their height.

Soil pH should be between 5.0-7.0 and P and K should be maintained at medium levels. Do not exceed 60 pounds of actual N per acre during the growing season. Split fertilizer applications of approximately 25 lb N/acre are recommended 10-14 days after emergence and again at internode elongation. Splitting fertilizer applications can help reduce plant lodging and maximize seed yields.



*Chiwapa billion-dollar grass seed production field at the Jamie L. Whitten Plant Materials Center*

**Ecological Considerations**

Cutworms, chinch bugs, and armyworms can reduce stands and yields. Weekly scouting is recommended to offset major problems before they occur. Multiple insecticide applications may be necessary to control chinch bug infestations. Chiwapa is susceptible to common grass plant diseases. For seed production, it is a common practice to apply a fungicide when the flag leaf emerges.

**Seed and Plant Production**

Plant maturity is highly dependent upon environmental conditions and soil fertility. Chiwapa is adversely affected by cooler temperatures and frost. Planting dates should be carefully planned for intended plant use. Chiwapa seed matures in 120-150 days after planting. Conventional combining is suitable for seed harvesting. Lodged plants can diminish yields. Clean seed yields range from 1,000 to 1,500 lb/acre. Commercial growers should contact the Jamie L. Whitten PMC for technical assistance in relation to plant production practices.

**Availability**

For conservation use: Commercial seed is available from commercial seed companies.

For seed or plant increase: Jamie L. Whitten PMC maintains breeder seed of Chiwapa billion-dollar grass. Interested seed growers can obtain foundation seed from MAFES Foundation Seed Stocks at Mississippi State, MS 39762. Phone: (662) 325-2390

**For More Information**

Jamie L. Whitten Plant Materials Center, 2533 County Road 65, Coffeeville, MS, 38922, 662-675-2588, [www.nrcs.usda.gov/plant-materials/mspmc](http://www.nrcs.usda.gov/plant-materials/mspmc).

**Citation**

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For additional information about this and other plants, please contact your local USDA Service Center, NRCS field office, or Conservation District <<http://www.nrcs.usda.gov/>>, and visit the PLANTS Web site <<http://plants.usda.gov>> or the Plant Materials Program Web site <<http://www.plant-materials.nrcs.usda.gov>>

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