Registration of ‘Giza 128’ Two-Rowed Barley

‘Giza 128’ barley (Hordeum vulgare L.) (Reg. no. CV-259, PI 586962) is a two-rowed spring malting cultivar developed by the Barley Research Department, Agricultural Research Center at Giza, Egypt, and released in September 1994. It was selected for grain and malting quality using the pedigree method from an F3 population received from the International Center for Agricultural Research in the Dry Areas (ICARDA). It originated from the cross W12291/4/11012-270-22425/3/‘Apam’/‘IB65’/‘A16’. It was selected for improved malting quality and high yield potential. Plant selections within superior F3 families were made and grown as F4 plant rows at the Sakha Research Station in the northern Delta of Egypt. Heads from superior families were selected and grown as head rows for roguing and purification purposes, after which only the best appearing and most uniform lines were combined together and carried forward to the next generation for yield and malting tests. The first yield trials of Giza 128 were conducted in 1990 to 1991 at four main stations: Sakha, Mallawi, Ismailia, and Nubaria (representing northern, middle, eastern, and western Egypt). Giza 128 was further evaluated in replicated preliminary multilocation yield trials grown under different environmental conditions of Egypt. In these trials, this line was superior to the commercial check cultivar, Bonus, in grain yield stability and malting quality characteristics. Subsequently, this line was included in large scale yield trials and in demonstration experiments conducted in farmers’ fields along with the long-term two-rowed check cultivar, Bonus, and the newly developed two-rowed ‘Giza 127’. Giza 128 was tested for resistance to the major barley diseases occurring in each environment, including net blotch (caused by Pyrenophora teres Drechs.), powdery mildew [caused by Erysiphe graminis DC. f. sp. hordei Em. Marchal; syn. Blumeria graminis (DC.) E.O. Speer], and barley stripe [caused by Pyrenophora graminea Ito & Kuribayashi; anamorph: Drechslera graminea (Rabenh.) Shoemaker].

Giza 128 is a two-rowed spring malting barley with semilax spikes. Stems are slightly waxy, with a dark-green color. It is intermediate in plant height, and has good straw strength. Juvenile plants have intermediate growth habit. Leaves are narrow and of narrow width, averaging 17 mm. Basal leaves are pubescent and auricles are white. Spikes are tandem, dense, and semilax. Awns are rough and longer than the rachilla is medium in length, with moderately long glumes. Glumes are hairy and about one-half the kernel in length.

Giza 128 is widely adapted under flood irrigation but is sensitive to drought stress. It is moderately resistant to normal mildew and tolerant to other major barley diseases under field conditions. Head emergence occurs between 90 to 95 d after planting, and maturity is 135 to 140 d from seeding, depending on the environment (including moisture and soil fertility). Average yields of 3870 kg ha\(^{-1}\) have been obtained for Giza 128 under optimum conditions. Head emergence occurs between 90 to 95 d from seeding, and maturity is 135 to 140 d from seeding, depending on the environment (including moisture and soil fertility). Average yields of 3870 kg ha\(^{-1}\) have been obtained for Giza 128 under optimum conditions. In addition to its yield advantage, Giza 128 is more stable in performance and has better grain quality than Bonus and Giza 127. Giza 128 has a relatively high protein content, ranging from 41 to 43 g.

The generation sequence of seed production will be foundation, registered, and certified. Breeder seed will be maintained at the Agricultural Research Station at Giza, and the seed will be certified. Breeder seed will be maintained at the Sakha Research Station in the northern Delta. Seed of Giza 128 is being introduced into experimental stations in Egypt for dissemination to farmers. Seed will be available from the Barley Research Department, Agricultural Research Center, Giza, Egypt.


References and Notes


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Registration of ‘Barikhesari-1’ Grasspea

‘Barikhesari-1’ grasspea (Lathyrus sativus L.) (Reg. no. CV-132, PI 592724) was developed at the Pulses Research Center (PRC), Bangladesh Agricultural Research Institute (BARI), Joydebpur, Gazipur, Bangladesh. It was released in 1995 by the National Seed Board (NSB) of Bangladesh as a low-neurotoxin cultivar adapted for production in grasspea growing areas of Bangladesh.

Barikhesari-1 was derived from the cross ‘LSD-5’/‘LC’. LSD-5 is an unadapted Indian line having blue flowers and botted bold seeds. This parent is low in β-N-oxalyl-diaminopropionic acid (ODAP) content, a neurotoxin that causes lathyrism in humans. LС

ovate where attached to the petiole. Flowers are axillary, with long peduncles. The corolla is deep blue, with a prominent vein and slightly red keel. Pods are long, flat, and two-winged. The seeds are gray in color. Seed weight is 58 g 1000 seed\(^{-1}\). This cultivar has 27.9% (w/w) ODAP content and 0.006 mg ODAP g seed\(^{-1}\). The ODAP content is nine times less than Jamalpur local. Barikhesari-1 was tested at several locations over 6 yr and averaged 1430 kg ha\(^{-1}\). It was superior to the local check cultivar (Jamalpur local) by 20% (1).

Seed of Barikhesari-1 was distributed to the Bangladesh Agricultural Development Corporation (BADC) for production and certified seed. Breeder seed will be maintained by the National Seed Board (NSB) of Bangladesh as a low-neurotoxin cultivar adapted for production in grasspea growing areas of Bangladesh.

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