West and Central Africa under the auspices of West and Central African Sorghum Research Network (WCASRN) and on farmers’ fields in Burkina Faso, Benin, Ghana, and Nigeria. It was released by the national research and government agencies in northern Nigeria in 1996. ICSV 111 was also released under the name ‘Kapaa’ for cultivation in northern Ghana by the Savanna Agricultural Research Institute (SARI) after on-farm and food quality tests (1).

ICSV 111 yielded 2.43 t ha\(^{-1}\) grain, compared with 1.17 t ha\(^{-1}\) from the local cultivar Gnofing, in farmer-managed trials in nine villages in northern Burkina Faso (2). Mean grain yield of ICSV 111 was 2.62 t ha\(^{-1}\) across 40 trials, compared with 2.89 t ha\(^{-1}\) of ‘Nagawhite’, an early-maturing brown grain control in the West African Sorghum Variety Adaptation Trials (WASVAT)—Early Group, between 1987 and 1990. In the West African Sorghum Hybrid Adaptation Trials conducted between 1988 and 1995, ICSV 111 was tested as an early-maturing control in 65 trials and gave an average yield of 2.72 t ha\(^{-1}\) across years and locations (1). ICSV was found to be well adapted to the 600- to 900-mm rainfall zones of West and Central Africa, although it can be grown in higher rainfall zones with delayed planting.

In Nigeria, the Nationally Coordinated Sorghum Research Project (NCSRPR) tested ICSV 111 in short-season variety trials across six to eight locations, where it produced grain yield of 1.82 and 2.50 t ha\(^{-1}\) in 1992 and 1993, respectively. ICSV 111 was tested at ICRISAT, Bagauda, Nigeria, between 1989 and 1994. Its grain yields ranged from 3.85 to 5.34 t ha\(^{-1}\) under good fertility (91–45 45 N-P-K kg ha\(^{-1}\)) and management conditions, compared with 2.78 to 3.05 t ha\(^{-1}\) under low fertility (15–15–15 N-P-K kg ha\(^{-1}\)) (1). In the same low-fertility trials, the local control produced 1.23 to 1.31 t ha\(^{-1}\) grain yield. In the multi-locational trials conducted by the Agricultural Development Projects (ADP) between 1991 and 1993 on farmer fields of the northern states of Nigeria (Kano, Jigawa, Katsina, and Borno), grain yield of ICSV 111 ranged from 0.59 to 3.13 t ha\(^{-1}\) across 51 tests, compared with 0.36 to 2.86 t ha\(^{-1}\) for the farmers’ local cultivar.

ICSV 111 is a photoinensitive, self-pollinated cultivar that flowers in 65 to 72 d and matures in 100 to 110 d. It is 1.6 to 2.1 m tall, and can yield 5 to 6 t ha\(^{-1}\) of stover. The green stalks are slightly sweet and juicy. It has tan plant color and white midrib. Leaves are horizontal to slightly drooping, 70 to 80 cm long and 7 to 10 cm wide. The leaf sheath covers only one basal internode completely or partially. ICSV 111 has well-exserted, semi-compact panicles that are free-threshing. The glumes are yellowish brown and cover about 25% of the mature grain. ICSV 111 is a caudatum type, with white hard grains, with a 1000-grain mass of 28 g, thin pericarp, and normal endosperm. Grains are tannin-free (no testa) and have good porridge food-making quality. ICSV 111 is moderately susceptible to anthracnose (caused by Colletotrichum graminicola (Ces. G.W. Wils.), sooty stripe (caused by Ramulispora sorghii (Ellis & Everh.) Olive & Lefebvre in Olive et al.), and head bug (Eurytus simillimus Odi.) damage in some areas of West Africa.

Seeds of ICSV 111 can be obtained upon request from ICRISAT, BP 320, Bamako, Mali, and are also stored at the Genetic Resources Division, ICRISAT Asia Center, Patancheru, AP 502 324, India.

D. S. Murty,* C. C. Nwasike, and I. D. K. Atokple (3)

References and Notes


Registration of ‘ICSV 400’ Sorghum Cultivar

‘ICSV 400’ sorghum [Sorghum bicolor (L.) Moench] (Reg. no. CV-134, PI 601816) is a pure-line cultivar developed at ICRISAT Asia Center, Patancheru, AP, India, during the years 1981 to 1985 through pedigree selection in the cross ICSV 112 × (IS 12611 × SC 108-3)-3-2-7 with selection number 8-2-2. The parents of ICSV 400 are all zerazera-derived types. ICSV 112 is an elite, high-yielding cultivar derived from a double cross of zerazera. IS 12611 is a germplasm accession from Ethiopia. SC 108-3 is a converted photoinsensitive three-gene dwarf of a zerazera from Ethiopia. In the early segregating generations, plants with bold and oval or round grains and optimum seed numbers were selected. The F\(_6\) line was tested at ICRISAT, Ouagadougou, Burkina Faso, in preliminary yield trials during 1985 and 1986 with the designation M-24581 and was subsequently tested in 1987 and 1988 by the West and Central African Sorghum Research Network (WCASRN), ICSV 400 has undergone multilocational trials in Nigeria under the auspices of the Nationally Coordinated Sorghum Research Project (NCSRPR) and was formally released in 1996 for cultivation in northern Nigeria.

In the West African Sorghum Variety Adaptation Trials (WASVAT)—Medium Group conducted over six locations each year, ICSV 400 produced an average grain yield of 2.48 and 2.77 t ha\(^{-1}\) in 1987 and 1988, respectively, compared with 1.82 and 2.15 t ha\(^{-1}\) from local controls (1). ICSV 400 was also tested in the West African Sorghum Hybrid Adaptation Trials (WASHAT) as a control during 1992 and 1993 over 6 and 7 locations and produced average yields of 2.86 and 2.85 t ha\(^{-1}\), respectively.

In 1992 and 1993, ICSV 400 was tested by the NCSRPR, in short-season variety trials and also as a control in hybrid trials, over six to eight locations. Average yields of ICSV 400 in the short-season variety trials were 2.33 and 2.51 t ha\(^{-1}\) in 1992 and 1993, respectively.

Local controls yielded 1.79 and 2.24 t ha\(^{-1}\) across locations. In NCSRPR hybrid trials, average grain yields of ICSV 400 across locations were 2.83 and 2.20 t ha\(^{-1}\) during 1992 and 1993, respectively. Local controls yielded 2.05 and 2.12 t ha\(^{-1}\), respectively (2). During 1991 to 1993, the Agricultural Development Projects of the northern states of Nigeria (Kano, Katsina, Jigawa, and Borno) tested ICSV 400 in replicated trials managed by farmers in comparison with their respective local controls. In 51 trials, grain yields of ICSV 400 ranged from 0.61 to 2.80 t ha\(^{-1}\), while those of the controls ranged from 0.36 to 2.80 t ha\(^{-1}\). On-station replicated trials at ICRISAT, Bagauda farm, Nigeria, between 1989 and 1994 showed that grain yield potential of ICSV 400 could vary from 3.63 to 5.91 t ha\(^{-1}\) under high fertility (91–45–45 N-P-K kg ha\(^{-1}\)) and good management, compared with 1.51 to 3.15 t ha\(^{-1}\) under low fertility (15–15–15 N-P-K kg ha\(^{-1}\)) and management. In the same low-fertility trials, the local control yielded 1.40 to 2.13 t ha\(^{-1}\) (3).

ICSV 400 takes 65 to 72 d to flower and is photosensitive. It has a tan plant color and 1.8 to 2.1 m in height. The stem is juicy, slightly sweet, and reaches a diameter of 18 to 25 cm.