



Notification of crop varieties and registration of germplasm

Rice

Variety Ajit IET 22066

IET 22066 is a high yielding rice variety which has been developed by Rice Research Station, Chinsurah, West Bengal. It was notified by the Central Sub-Committee on Crop Standard Notification and Release of Varieties for Agricultural Crops, Govt. of India vide notification No S.O. 1438 (E) dated 18.4.2016. The entry was tested under AICRIP (Directorate of Rice Research) during 2010-2012 at 72 locations along with checks.

The proposed variety has been developed from a cross CN 540/IR50. Hybridization followed by pedigree method of selection. CN540 (IR262/Leb bu Nang11) a semi tall (130cm) photoperiod weekly sensitive rice variety with long slender grain and IR50 (IR2153-14-1-6-2/IR28/IR36) a semi dwarf photoperiod non sensitive rice variety with high tillering habit, wide adaptability and long slender grain. Ajit (IET 22066) is a semi-dwarf type with narrow erect green leaves, apiculous non pigmented short and partly awned, complete panicle exertion, compact panicle, basal leaf sheath colour green and medium slender grain. It is irrigated type suitability under both high and low fertility conditions. IET 22066 responded most favorably to the additional doses of nitrogen by 18.98% and 26.43% over base dose of nitrogen compared to other check entries. It can be grown in pre *kharif*, *kharif* and *boro* seasons. It has been identified for Zone II, IV and V (Uttarakhand, Maharashtra and Tamil Nadu).

IET22066, on an average registered a grain yield of 4730 kg/ha over 72 locations and out yielded national checks (Annada/Sahabaghidhan) by 16.53% (4059 kg/ha), regional check (Narendra 97) by 28.14% (3691 kg/ha) and local checks by 10.00% (4300kg/ha). The cultivation of the variety Ajit IET 22066 has generated a wider acceptability among farmers for its higher yield as compared to other cultivated rice varieties of the similar situation and duration. The consumer preference is highly satisfactory for its good cooking quality and medium slender grain type. (Milling 66.4%, HRR 50.5%, Kernel length 5.44 mm, Kernel breadth 1.84 mm and L/B ratio is 2.95, amylose content 24.21 and GC 85 mm). The grain is popular for preparation of puffed, paste and parched rice. These factors help the farmer to receive higher market price. The variety

is resistant to lodging and tolerant to shattering and exhibit responsiveness to fertilizer.

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Basmati rice

Variety Pusa Basmati 1637

Pusa Basmati 1637 (IET 24570) is a MAS derived near isogenic line of Pusa Basmati 1 possessing *Pi9* gene for blast resistance developed by ICAR-Indian Agricultural Research Institute, New Delhi through marker assisted backcross breeding. Foreground selection was done using the gene linked molecular marker AP5659-5, which was supplemented with the stringent phenotypic selection for agro-morphological, grain and cooking qualities to accelerate the recovery of recurrent parent phenome. Further, background analysis using 104 polymorphic SSR markers revealed the recurrent parent genome recovery of 96.6% in the NIL Pusa Basmati 1637 (PB 1637). It was identified at the 51st Annual Rice Research Group Meetings - All India Coordinated Rice Improvement Programme" held at Indira Gandhi Krishi Vishwavidyalaya, Raipur, Chhattisgarh from April 2-6, 2016.

PB 1637 has been released for commercial cultivation in the Basmati growing regions of the Western Uttar Pradesh, National Capital Region of Delhi, Uttarakhand, Haryana and Punjab vide Gazette notification no. S.O.3540(E) dated 22.11.2016. It produces an average yield of 4.2 t/ha in 130 days and has a potential yield of upto 7.0 t/ha. PB 1637 has exhibited resistant reaction against blast disease with an SI of 2.7 (2014) and 2.9 (2015) as compared with its recurrent, Pusa Basmati 1 which showed highly susceptible reaction with SI of 6.1 (2014) and 6.5 (2015). It possesses long slender grains (7.3 mm) with very occasional grain chalkiness, kernel length after cooking of 13.8 mm and strong aroma. In the panel test, it was ranked excellent based on its appearance, tenderness on touching and chewing, taste, aroma, elongation and overall acceptability, which is at par

with the recurrent parent Pusa Basmati 1. This variety being resistant to blast disease will help in reducing the use of fungicides significantly, thus economizing cost of cultivation and also minimizing the risk of pesticide residue, which is a major concern in both domestic and global Basmati trade.

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Variety Pusa Basmati 1728

Pusa Basmati 1728 (IET 24573) is a MAS derived near isogenic line of Pusa Basmati 6 carrying two genes for BB resistance namely, *xa13* and *Xa21* developed by ICAR-Indian Agricultural Research Institute, New Delhi through marker assisted backcross breeding. The bacterial blight resistance genes, *xa13* and *Xa21* were transferred from the donor parent, Improved Pusa Basmati 1, through foreground selection using the gene based markers, *xa13prom* and *pTA248*, respectively. Foreground selection and phenotypic selection for agromorphological, grain and cooking qualities followed by background selection was used to accelerate the recovery of recurrent parent phenome and genome. A total of 500 SSR markers were used in parental polymorphism survey, however, only 24 markers were found to be polymorphic. Background analysis using these 24 polymorphic SSR markers revealed the recurrent parent genome recovery of 95.83% in Pusa Basmati 1728. It was identified at the 51st Annual Rice Research Group Meetings - All India Coordinated Rice Improvement Programme" held at Indira Gandhi Krishi Vishwavidyalaya, Raipur, Chhattisgarh from April 2-6, 2016.

Pusa Basmati 1728 (PB 1728) has been released for Punjab, Haryana, Delhi, Jammu & Kashmir, Uttarakhand and western Uttar Pradesh) of

the Basmati growing region of India vide Gazette notification no. S.O.3540(E) dated 22.11.2016. It has a seed to seed maturity of 140 to 145 days and average yield of 4.18 t/ha and has a potential yield of upto 6.5 t/ha. It has shown highly resistant reaction [Susceptibility Index: 2 (2014) and 3.7 (2015)] to bacterial blight disease as compared to the severe susceptibility shown by the recurrent parent Pusa Basmati 6 [Susceptibility Index: 6.3 (2014) and 7.7 (2015)]. PB 1728 possesses extra-long slender grains (7.46 mm) with very occasional grain chalkiness, very good kernel length after cooking (14.62 mm) and very strong aroma. In the panel tests, PB 1728 was ranked excellent among the Basmati varieties and other cultures tested for two consecutive years for its cooked rice appearance, cohesiveness, tenderness, taste, aroma, elongation and overall acceptability.

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Fieldpea

Variety Central Fieldpea IPFD 12-2 (IPFD 12-2)

Central Fieldpea IPFD 12-2 is a white and round seeded dwarf fieldpea variety, which was developed from a cross, HUDP 15 x EC 342002 using pedigree method at ICAR-Indian Institute of Pulses Research, Kanpur. The variety was identified for irrigated as well as rainfed conditions during *rabi* season for timely sown conditions of Central Zone (CZ) by Variety Identification Committee during 21st Annual Group Meet of All India Coordinated Research Project on MULLaRP (Mungbean, Urdbean, Lentil, Lathyrus, Rajmash and Peas) held on 31.08.15 at PAU, Ludhiana. This variety was lateron released by the Central Sub-Committee on Crop Standard, Notification and Release of Varieties for agricultural Crops (CVRC) and notified

by the Gazette Notification S.O. No.1007(E) dated 30th march, 2017 for central zone comprised of Madhya Pradesh, Chhattisgarh, Gujarat and Southern Rajasthan.

IPFD 12-2 was entered in the All India Coordinated testing programme of MULLaRP during 2012-13 in IVT trial and evaluated along with two dwarf type checks *viz.*, Prakash, Vikas and one tall type check *i.e.*, Adarsh. In coordinated trials one additional local check KPMR 400 was also used. This variety consistently showed promising results over the national, regional and local check varieties under national testing from 2012-13 to 2014-15. It gave an average yield potential of 2433 kg/ha in central zone and has recorded an yield advantage of 26.51% over the check variety Prakash. Additionally, it has shown 26.26% yield gain over the check variety Vikas, 41.98% superiority over the check variety Adarsh and 44.69% yield advantage over the variety KPMR 400 in the central zone.

It is a dwarf and leaflet less type in growth habit with early vigour, green glabrous stipules, round, white and smooth seed. It has average maturity duration of 110 days, plant stature of 76cm and 100-seed weight 16.93g. Moreover, in pathology trials variety IPFD 12-2 exhibited resistant reaction to powdery mildew disease. In addition, it portrayed resistance to pod borer and moderate resistance to aphid and leaf miner. In quality analysis, IPFD 12-2 showed higher protein content (23.05 percent) as compared to the checks, Prakash and Adarsh. This variety with high yield potential (2.4 tonnes) along with early maturity (110 days) may be good replacement of existing varieties under irrigated as well as rainfed conditions during *rabi* season for timely sown conditions in Central Zone and consequently it has been recommended for cultivation in the states of Madhya Pradesh, Chhattisgarh, Gujarat and Southern Rajasthan.

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