

# **IARI-bred Crop Cultivars for Sustainable Livelihood**

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ICAR-Indian Agricultural Research Institute (IARI) popularly known as ‘Pusa Institute’ is a premier national Institute for agricultural research, education and extension under the Indian Council of Agricultural Research (ICAR). IARI has been the seat of ‘Green Revolution’, and produced a number of blockbuster varieties in different crops that have produced handsome yields, incomes for farmers and export earnings. Through effective integration of modern scientific tools and techniques, breeders of Division of Genetics of the Institute have developed high yielding varieties of major crops which occupy vast areas throughout the country, thus playing a vital role in achieving ‘food and nutritional security’ of the country and contributing towards enhancing the income of the farmers. The continuously growing demand of seeds of IARI bred crop varieties is a testimony of their popularity among the farmer’s community and contributed significantly to national granary. During 2014-21, IARI has developed a total of 66 cultivars including varieties and hybrids of 11 different field crops. Besides, higher grain yield, these newly developed crop varieties possess better resilience to biotic- and abiotic- stresses, better nutritional qualities. The salient features of these varieties are given hereunder:

### Rice

1. **Pusa Basmati 1:** *Area:* Punjab, Haryana, Delhi, Uttar Pradesh, Uttarakhand and Jammu & Kashmir, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 50.0 q/ha, *Maturity:* 135 days; *Salient features:* semi-dwarf and high yielding Basmati rice variety.
2. **Pusa Basmati 1121:** *Area:* NCR of Delhi and Punjab, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 50.0 q/ha, *Maturity:* 140 days, *Salient features:* Basmati rice variety with extra-long slender grain with cooked kernel length of 20-25mm and volume expansion of more than 4 times upon cooking.
3. **Pusa Basmati 6:** *Area:* Punjab, Haryana, Delhi, Western Uttar Pradesh, Uttarakhand and Jammu & Kashmir, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 55.0 q/ha, *Maturity:* 150 days, *Salient features:* semi-dwarf Basmati rice variety with strong culm and less chalky grains (<4%) with very strong aroma.
4. **Pusa Basmati 1509:** *Area:* Western Uttar Pradesh and Delhi, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 60.0 q/ha, *Maturity:* 120 days, *Salient features:* semi-dwarf, early maturing Basmati rice variety with extra-long slender grains.
5. **Pusa 1612:** *Area:* Punjab, Haryana, Delhi and Jammu & Kashmir, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 51.0 q/ha, *Maturity:* 120 days, *Salient features:* semi-dwarf, early maturing long slender aromatic rice variety with resistance to Blast disease.
6. **Pusa 1592:** *Area:* Punjab, Haryana, Delhi and Jammu & Kashmir, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 47.3 q/ha, *Maturity:* 120 days, *Salient features:* resistant to bacterial blight disease and long slender aromatic variety.
7. **Pusa Basmati 1609:** *Area:* Uttar Pradesh, NCR of Delhi, Uttarakhand and Punjab, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 46.0 q/ha, *Maturity:* 120 days, *Salient features:* resistant to blast disease.
8. **Pusa Basmati 1637:** *Area:* Western Uttar Pradesh, NCR of Delhi, Uttarakhand, Haryana and Punjab, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 42.0 q/ha, *Maturity:* 130 days, *Salient features:* NIL of Pusa Basmati 1, and resistant to blast disease.
9. **Pusa Basmati 1728:** *Area:* Punjab, Haryana, Delhi, Jammu & Kashmir, Uttarakhand and Western Uttar Pradesh, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 41.8 q/ha, *Maturity:* 140 days, *Salient features:* NIL of Pusa Basmati 6, and highly resistant to bacterial blight disease.
10. **Pusa Basmati 1718:** *Area:* Punjab, Haryana, Delhi, Jammu & Kashmir, Uttarakhand and Western Uttar Pradesh, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 46.4 q/ha, *Maturity:* 135 days, *Salient features:* NIL of Pusa Basmati 1121, and highly resistant to bacterial blight disease.
11. **Pusa Samba 1850:** *Area:* Odisha and Chhattisgarh, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 47.7 q/ha, *Maturity:* 140 days, *Salient features:* NIL of medium slender grain rice variety, Samba Mahsuri, and highly resistant to blast disease.

12. **Pusa Basmati 1692:** Area: Haryana, Delhi and Western Uttar Pradesh, Season: Kharif, Production condition: irrigated, Average yield: 52.6 q/ha, Maturity: 115 days, Salient features: semi-dwarf, and high yielding short duration variety.

### Wheat

1. **HD 3059:** Area: NWPZ, Season: Rabi, Production condition: late sown irrigated condition, Average yield: 42.6 q/ha, Maturity: 121 days, Salient features: resistant to all rusts including Ug99, and suitable for bread and chapati.
2. **HI 1544:** Area: CZ, Season: Rabi, Production condition: timely sown irrigated condition, Average yield: 52.5 q/ha, Maturity: 112 days, Salient features: resistant to stem and brown rusts, performs well under limited irrigated conditions, and suitable for bread and chapati.
3. **HD 2932:** Area: CZ and PZ, Season: Rabi, Production condition: late sown irrigated condition, Average yield: 42.0 q/ha, Maturity: 110 (PZ) and 120 (CZ) days, Salient features: resistant to stem and brown rusts, bold seeded, and suitable for bread and chapati.
4. **HD 2733:** Area: NEPZ, Season: Rabi, Production condition: timely sown irrigated condition, Average yield: 47.0 q/ha, Maturity: 135 days, Salient features: resistant to brown rusts, and suitable for bread and chapati.
5. **HD 3086 (Pusa Gautami):** Area: NWPZ and NEPZ, Season: Rabi, Production condition: timely sown irrigated condition, Average yield: 56.3 q/ha, Maturity: 121 (NEPZ), 145 (NWPZ) days, Salient features: very high resistant against stripe rust and leaf rust disease.
6. **HD 2967:** Area: NWPZ and NEPZ, Season: Rabi, Production condition: timely sown irrigated condition, Average yield: 45.5 q/ha, Maturity: 145 days (NWPZ) and 122 days (NEPZ), Salient features: resistant against yellow rust and brown rust disease, high protein (11.2%), high iron (54.7 ppm) and zinc (46.8 ppm), and suitable for making bread and chapati.
7. **HD 3118 (Pusa Vatsala):** Area: NEPZ, Season: Rabi, Production condition: late sown irrigated condition, Average yield: 41.7 q/ha, Maturity: 112 days, Salient features: resistant against stripe rust and leaf rust disease, good extraction rate and suitable for making chapati.
8. **HS 542 (Pusa Kiran):** Area: NHZ, Season: Rabi, Production condition: early sown and rainfed conditions, Average yield: 32.9 q/ha, Maturity: 192 days, Salient features: resistant against rusts, high iron (40.2 ppm) and zinc (41.3 ppm), and suitable for making chapati.
9. **HW 1098 (Nilgiri Khapli (dicocum)):** Area: Tamil Nadu, Karnataka, Maharashtra and Gujarat, Season: Rabi, Production condition: timely sown irrigated condition, Average yield: 45.5 q/ha, Maturity: 106 days, Salient features: semi-dwarf with superior dicocum quality, resistant against stem and leaf rust, and high protein (>16%) and  $\beta$ -carotene (3.7 ppm).
10. **HI 8737 (Pusa Anmol) (durum):** Area: CZ, Season: Rabi, Production condition: timely sown irrigated condition, Average yield: 53.4 q/ha, Maturity: 125 days, Salient features: field resistant against stem and leaf rust disease, protein (12.1%), iron (38.5 ppm) and zinc (40.0 ppm).
11. **HDCSW 18:** Area: NCR of Delhi, Season: Rabi, Production condition: early sown irrigated condition under conservation agriculture, Average yield: 62.8 q/ha, Maturity: 150 days, Salient features: highly resistant against brown rust and moderately resistant against yellow rust disease, tolerant to temperature at seedling stage, high protein (12.4%), and suitable for making chapati.
12. **HD 3117:** Area: NCR of Delhi, Season: Rabi, Production condition: late sown irrigated condition under conservation agriculture, Average yield: 47.9 q/ha, Maturity: 109 days, Salient features: highly resistant against Karnal bunt, resistant against stripe and leaf rust disease, tolerant to terminal heat stress.
13. **HS 562:** Area: NHZ and NE states, Season: Rabi, Production condition: timely sown rainfed and irrigated condition, Average yield: 36.0 q/ha (rainfed) and 52.7 q/ha (irrigated), Maturity: 183 days (rainfed) and 175 days (irrigated), Salient features: field resistant against rust disease, protein (9.4%), iron (38.4 ppm) and zinc (34.5 ppm) and suitable for making bread and chapati.
14. **HD 3171:** Area: NEPZ, Season: Rabi, Production condition: timely sown rainfed condition, Average yield: 29.5 q/ha, Maturity: 122 days, Salient features: tolerant to moisture stress condition, highly resistant against stripe, leaf and stem rust disease, suitable for making bread and chapati.
15. **HI 1605 (Pusa Ujala):** Area: PZ, Season: Rabi, Production condition: timely sown restricted irrigated condition, Average yield: 29.1 q/ha, Maturity: 105 days, Salient features: field resistant

- against stem and leaf rust disease, tolerant to drought, high protein (13.1%), high iron (43 ppm) and zinc (35 ppm) and excellent for making *chapatti* and bread.
16. **HI 8759 (Pusa Tejas) (durum):** Area: CZ, Season: Rabi, Production condition: timely sown irrigated condition, Average yield: 56.9 q/ha, Maturity: 117 days, Salient features: field resistant against stem and leaf rust disease, protein (11.9%), high iron (42.1 ppm), zinc (42.8 ppm) and yellow pigment (5.7 ppm).
  17. **HW 5207 (COW 3):** Area: Tamil Nadu, Season: Rabi, Production condition: timely sown restricted irrigated condition, Average yield: 40.7 q/ha, Maturity: 100 days, Salient features: highly resistant against stem, leaf and stripe rust disease, excellent grain nutrition quality.
  18. **HI 1612:** Area: NEPZ, Season: Rabi, Production condition: timely sown restricted irrigated condition, Average yield: 37.6 q/ha, Maturity: 125 days, Salient features: field resistant against leaf and stripe rust disease, protein (11.5%), excellent for making *chapati*, and tolerant to drought and terminal heat.
  19. **HI 8777 (durum):** Area: PZ, Season: Rabi, Production condition: timely sown rainfed condition, Average yield: 18.5 q/ha, Maturity: 108 days, Salient features: resistant against leaf and stem rust disease, high iron (48.7 ppm) and zinc (43.5 ppm), and tolerant to drought.
  20. **HD 3226:** Area: NWPZ, Season: Rabi, Production condition: timely sown irrigated condition, Average yield: 57.5 q/ha, Maturity: 142 days, Salient features: highly resistant against stripe, leaf and stem rust, Karnal bunt, powdery mildew, flag smut and foot rot disease, and suitable for making bread and *chapati*.
  21. **HD 3237:** Area: NWPZ, Season: Rabi, Production condition: timely sown restricted irrigated condition, Average yield: 48.4 q/ha, Maturity: 145 days, Salient features: highly resistant against stripe and leaf rust, and suitable for making *chapati*.
  22. **HI 1620:** Area: NWPZ, Season: Rabi, Production condition: timely sown restricted irrigated condition, Average yield: 49.1 q/ha, Maturity: 146 days, Salient features: resistant against stripe and leaf rust, protein (11.9%), excellent for making *chapati*, and tolerant to drought and terminal heat.
  23. **HI 1628:** Area: NWPZ, Season: Rabi, Production condition: timely sown restricted irrigated condition, Average yield: 50.4 q/ha, Maturity: 147 days, Salient features: resistant against stripe and leaf rust, protein (11.0%), excellent for making *chapati* and bread, and tolerant to terminal heat.
  24. **HI 1621:** Area: NWPZ, Season: Rabi, Production condition: very late sown irrigated condition, Average yield: 32.8 q/ha, Maturity: 102 days, Salient features: resistant against stripe and leaf rust, high protein (12-13%), and excellent for making *chapati* and bread.
  25. **HI 8805 (durum):** Area: PZ, Season: Rabi, Production condition: timely sown rainfed condition, Average yield: 30.4 q/ha, Maturity: 105 days, Salient features: resistant against stem and leaf rust, high protein (12.8%), high iron (40.4 ppm) and zinc (33.9 ppm), and tolerant to drought.
  26. **HI 8802 (durum):** Area: PZ, Season: Rabi, Production condition: timely sown rainfed condition, Average yield: 29.1 q/ha, Maturity: 109 days, Salient features: resistant to stem and leaf rust, high protein (13.0%), high iron (39.5 ppm) and zinc (35.9 ppm), and tolerant to drought.
  27. **HD 3249:** Area: NEPZ, Season: Rabi, Production condition: timely sown irrigated condition, Average yield: 48.75 q/ha, Maturity: 122 days, Salient features: high level of resistance against blast, stripe and leaf rust, protein (10.67%), high iron (42.5 ppm) and zinc (27 ppm), and good for *chapati* making.
  28. **HD 3271:** Area: NWPZ and NEPZ, Season: Rabi, Production condition: very late sown irrigated condition, Average yield: 32.5 q/ha, Maturity: 104 days, Salient features: high level of resistance against stripe and leaf rusts, and good for bread making.
  29. **HD 3298:** Area: NWPZ, Season: Rabi, Production condition: very late sown irrigated condition, Average yield: 39.0 q/ha, Maturity: 104 days, Salient features: rich in iron (43.1 ppm) and protein (12.1%), resistant to multiple diseases like stripe rust, leaf rust, Karnal bunt, powdery mildew, foliar head blight and flag smut.
  30. **HD 3293:** Area: NEPZ, Season: Rabi, Production condition: timely sown restricted irrigated condition, Average yield: 38.8 q/ha, Maturity: 129 days, Salient features: highly resistant against blast disease.

31. **HI 1633:** Area: PZ, Season: Rabi, Production condition: late sown restricted irrigated condition, Average yield: 41.7 q/ha, Maturity: 100 days, Salient features: rich in iron (41.6 ppm), zinc (41.1 ppm) and protein (12.5 %).
32. **HI 1634:** Area: CZ, Season: Rabi, Production condition: late sown irrigated condition, Average yield: 51.6 q/ha, Maturity: 108 days, Salient features: highly resistant to stem rust and leaf rust.

#### **Barley**

1. **BHS 400 (Pusa Sheetal):** Area: NHZ, Season: Rabi, Production condition: rainfed and irrigated condition, Average yield: 32.7 q/ha, Maturity: 168 days, Salient features: resistant against yellow rust and high protein (9.2%).

#### **Maize**

1. **Pusa Vivek QPM 9 Improved (hybrid):** Area: NHZ and PZ, Season: Kharif, Production condition: irrigated, Average yield: 55.9 q/ha (NHZ) and 59.2 q/ha (PZ), Maturity: 93 days (NHZ), 83 days (PZ), Salient features: country's first provitamin-A rich maize hybrid, and high provitamin-A (8.15 ppm), lysine (2.67%) and tryptophan (0.74%).
2. **Pusa HM4 Improved (hybrid):** Area: NWPZ, Season: Kharif, Production condition: irrigated, Average yield: 64.2 q/ha, Maturity: 87 days, Salient features: high lysine (3.62%) and tryptophan (0.91%), and rich in protein quality.
3. **Pusa HM8 Improved (hybrid):** Area: PZ, Season: Kharif, Production condition: irrigated, Average yield: 62.6 q/ha, Maturity: 95 days, Salient features: high lysine (4.18%) and tryptophan (1.06%), and rich in protein quality
4. **Pusa HM9 Improved (hybrid):** Area: NEPZ, Season: Kharif, Production condition: irrigated, Average yield: 52.0 q/ha, Maturity: 89 days, Salient features: high lysine (2.97%) and tryptophan (0.68%), and rich in protein quality.
5. **Pusa Super Sweet Corn 1 (hybrid):** Area: NHZ, NWPZ, NEPZ and PZ, Season: Kharif, Production condition: irrigated, Average yield (dehusked): 93.0 q/ha, Maturity: 75 days, Salient features: high brix: 15.9%.
6. **Pusa Jawahar Hybrid Maize 1 (hybrid):** Area: Madhya Pradesh, Season: Kharif, Production condition: irrigated, Average yield: 65.0 q/ha, Maturity: 95 days, Salient features: Field tolerance to flowering stalk rot and Rajasthan downy mildew (RDM), and stay green plants.
7. **Pusa Vivek Hybrid-27 Improved (hybrid):** Area: NEPZ, Season: Kharif, Production condition: irrigated, Average yield: 48.5 q/ha, Maturity: 84 days, Salient features: high provitamin-A (5.49 ppm).
8. **Pusa HQPM-5 Improved (hybrid):** Area: Across the country, Season: Kharif, Production condition: irrigated, Average yield: 64.7 q/ha, Maturity: 111 days (NHZ), 92 days (NWPZ), 88 days (NEPZ), 98 days (PZ), 91 days (CWZ), Salient features: high provitamin-A (6.77 ppm), high lysine (4.25%) and tryptophan (0.94%), and rich in high protein quality.
9. **Pusa HQPM-7 Improved (hybrid):** Area: PZ, Season: Kharif, Production condition: irrigated, Average yield: 74.5 q/ha, Maturity: 97 days, Salient features: high provitamin-A (7.10 ppm), high lysine (4.19%) and tryptophan (0.93%), and rich in high protein quality.
10. **Pusa Super Sweet Corn 2 (hybrid):** Area: Himachal Pradesh, Uttarakhand, Haryana, Uttar Pradesh, Karnataka, Tamil Nadu, Chhattisgarh and Rajasthan, Season: Kharif, Production condition: irrigated, Average yield (dehusked): 95.0 q/ha, Maturity: 77 days, Salient features: high green cob yield and green fodder yield, and high brix: 16.4%.
11. **Pusa Baby Corn Hybrid 1 [AH-7043] (hybrid):** Area: NHZ, PZ and NEPZ, Season: Kharif, Production condition: irrigated, Average yield (dehusked baby ears): 21.0 q/ha, Maturity: 60 days, Salient features: early maturing with high green fodder yield.

#### **Pearl millet**

1. **Pusa Composite 612:** Area: Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu, Season: Kharif, Production condition: rainfed and irrigated, Average yield: 25 q/ha, Maturity: 80 days, Salient features: dual purpose and resistant to downy mildew.

2. **Pusa composite 701:** *Area:* Zone A: Rajasthan, Gujarat, Haryana, Punjab, Uttar Pradesh, Madhya Pradesh and Delhi, *Season:* Kharif, *Production condition:* rainfed and irrigated, *Average yield:* 23.5 q/ha, *Maturity:* 80 days, *Salient features:* highly resistant to downy mildew, rich in iron (48 ppm) and zinc (41 ppm).
3. **Pusa 1201 (hybrid):** *Area:* NCR of Delhi, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 28.1 q/ha, *Maturity:* 80 days, *Salient features:* highly resistant to downy mildew and blast, and rich in iron (55 ppm) and zinc (48 ppm).

### Chickpea

1. **Pusa 372:** *Area:* Rajasthan, Uttar Pradesh, Punjab, Haryana, Delhi, Jammu & Kashmir, Bihar, Jharkhand, West Bengal, Madhya Pradesh, Chhattisgarh, Gujarat and Maharashtra. *Season:* Rabi, *Production condition:* irrigated, late sown, *Average yield:* 19 q/ha, *Maturity:* 125 days, *Salient features:* moderately resistant to wilt & root rot; tolerant to pod borer
2. **Pusa 547:** *Area:* Rajasthan, Western Uttar Pradesh, Punjab, Haryana, Delhi and Jammu & Kashmir; *Season:* Rabi, *Production condition:* irrigated, late sown, *Average yield:* 18 q/ha, *Maturity:* 130 days, *Salient features:* moderately resistant to wilt, stunt & root rot; tolerant to pod borer.
3. **BG 3022 (kabuli):** *Area:* NWPZ, *Season:* Rabi, *Production condition:* irrigated, *Average yield:* 18.0 q/ha, *Maturity:* 145 days, *Salient features:* extra large seeds (38g per 100 seeds), and seeds rich in protein (25%).
4. **BG 3043 (desi):** *Area:* NEPZ, *Season:* Rabi, *Production condition:* rainfed, *Average yield:* 16.0 q/ha, *Maturity:* 130 days, *Salient features:* bold seeded (22-23 g per 100 seeds).
5. **BGD 111-1 (desi):** *Area:* Zone 3 and Zone 8 of Karnataka, *Season:* Rabi, *Production condition:* rainfed, *Average yield:* 17.0 q/ha, *Maturity:* 95 days, *Salient features:* bold seeded (25 g) and improved grain filling feature, excellent grain quality and better popping character.
6. **BG 3062 (Pusa Parvati) (desi):** *Area:* CZ, *Season:* Rabi, *Production condition:* timely sown irrigated, *Average yield:* 22.7 q/ha, *Maturity:* 112 days, *Salient features:* erect, suitable for mechanical harvesting, highly resistant to *Fusarium* wilt, and moderately resistant to dry root rot and stunt disease.
7. **Pusa chickpea 10216 (desi):** *Area:* CZ, *Season:* Rabi, *Production condition:* rainfed, *Average yield:* 14.8 q/ha, *Maturity:* 106 days, *Salient features:* country's first drought tolerant MAS-derived chickpea variety, protein (22.6%), and moderately resistant to *Fusarium* wilt, dry root rot, stunt disease and pod borer.
8. **Pusa chickpea 20211 [Pusa Manav] (desi):** *Area:* CZ, *Season:* Rabi, *Production condition:* timely sown irrigated, *Average yield:* 23.9 q/ha, *Maturity:* 108 days, *Salient features:* highly resistant to *Fusarium* wilt.

### Pigeonpea

1. **Pusa 991:** *Area:* NCR of Delhi, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 16.5 q/ha, *Maturity:* 142 days, *Salient features:* indeterminate, early maturity, suitable for pigeonpea-wheat cropping system.
2. **Pusa 992:** *Area:* NWPZ, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 16.5 q/ha, *Maturity:* 140 days, *Salient features:* indeterminate, semi-spreading, early maturity, suitable for pigeonpea-wheat cropping system.
3. **Pusa 2001:** *Area:* NCR of Delhi, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 18.7 q/ha, *Maturity:* 140 days, *Salient features:* early, suitable for pre-monsoon season sowing, early vigour, tolerant to major diseases (wilt, phytophthora blight and sterility mosaic virus).
4. **Pusa 2002:** *Area:* NCR of Delhi, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 17.7 q/ha, *Maturity:* 143 days, *Salient features:* indeterminate, semi-spreading, early maturing, suitable for pigeonpea-wheat cropping system.
5. **Pusa Arhar 16:** *Area:* NCR of Delhi, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 19.8 q/ha, *Maturity:* 120 days, *Salient features:* extra early maturity allows growing of mustard, wheat, potato after its harvest, easy spraying, and suitable for high density planting.

### Mungbean

1. **Pusa Vishal:** *Area:* NWPZ, *Season:* Spring, *Production condition:* irrigated, *Average yield:* 11.5 q/ha, *Maturity:* 65 days, *Salient features:* resistant to MYMV, synchronous maturity and bold seeded.
2. **Pusa 9531:** *Area:* NWPZ and CZ, *Season:* Spring, *Production condition:* irrigated, *Average yield:* 11.5 q/ha, *Maturity:* 65 days, *Salient features:* resistant to MYMV, and synchronous maturity.
3. **Pusa 672:** *Area:* NHZ, *Season:* Kharif, *Production condition:* rainfed, *Average yield:* 9.5-10.0 q/ha, *Maturity:* 52-103 days, *Salient features:* resistant to MYMV and CLS and 100 seed weight is 3.8-5.3 g.
4. **Pusa 1371:** *Area:* NHZ, *Season:* Kharif, *Production condition:* rainfed, *Average yield:* 9.2 q/ha, *Maturity:* 87 days, *Salient features:* resistant to MYMV, root rot, web blight and anthracnose, average protein (24.1%) and 100 seed weight is 3.26 g.
5. **Pusa 1431:** *Area:* NCR of Delhi, *Season:* Spring, *Production condition:* irrigated, *Average yield:* 12.9 q/ha, *Maturity:* 66 days, *Salient features:* resistant to MYMV, *Cercospora* leaf spots, web blight, urd bean leaf crinkles virus and anthracnose, average protein (25.4%) and 100 seed weight is 4.7 g.

### Lentil

1. **L 4076:** *Area:* NWPZ and CZ, *Season:* Rabi, *Production condition:* rainfed, *Average yield:* 13.5 q/ha, *Maturity:* 125 days, *Salient features:* medium bold seeded and resistant to *Fusarium* wilt.
2. **L 4147:** *Area:* NWPZ, *Season:* Rabi, *Production condition:* rainfed, *Average yield:* 15 q/ha, *Maturity:* 125 days, *Salient features:* small seeded, resistant to *Fusarium* wilt, and rich in iron content.
3. **L 4717 (Pusa Ageti Masoor):** *Area:* CZ, *Season:* Rabi, *Production condition:* rainfed, *Average yield:* 12.5 q/ha, *Maturity:* 100 days, *Salient features:* resistant to powdery mildew and moderately resistant to *Ascochyta* blight and *Fusarium* wilt.
4. **L 4727:** *Area:* CZ, *Season:* Rabi, *Production condition:* rainfed, *Average yield:* 11.4 q/ha, *Maturity:* 103 days, *Salient features:* moderately resistant to wilt and average protein content of 26.5%.
5. **L 4729:** *Area:* CZ, *Season:* Rabi, *Production condition:* rainfed, *Average yield:* 17.5 q/ha, *Maturity:* 103 days, *Salient features:* moderately resistant to wilt.
6. **PDL 1:** *Area:* Haryana and Uttar Pradesh, *Season:* Rabi, *Production condition:* rainfed (saline soil), *Average yield:* 9.83 q/ha, *Maturity:* 111 days, *Salient features:* tolerant to soil salinity conditions.
7. **PSL 9:** *Area:* Haryana and Uttar Pradesh, *Season:* Rabi, *Production condition:* rainfed (saline soil), *Average yield:* 9.49 q/ha, *Maturity:* 112 days, *Salient features:* tolerant to soil salinity conditions.

### Mustard

1. **Pusa Mustard 25:** *Area:* Rajasthan, Punjab, Haryana, Delhi and Jammu & Kashmir and Western Uttar Pradesh, *Season:* Rabi, *Production condition:* early sown, irrigated, *Average yield:* 15.0 q/ha, oil 39.6%, *Maturity:* 105 days, *Salient features:* this is an excellent alternative to *Toria* in North Eastern regions.
2. **Pusa Mustard 26:** *Area:* Rajasthan, Punjab, Haryana, Delhi, Jammu & Kashmir, Himachal Pradesh and Western Uttar Pradesh, *Season:* Rabi, *Production condition:* late sown, irrigated, *Average yield:* 16.04 q/ha, oil 37.6%, *Maturity:* 126 days, *Salient features:* high temperature tolerant.
3. **Pusa Mustard 27:** *Area:* Zone-III; Uttar Pradesh, Madhya Pradesh, Uttarakhand and Kota region of Rajasthan, *Season:* Rabi, *Production condition:* early sown (September) irrigated, *Average yield:* 15.4 q/ha, *Maturity:* 118 days, *Salient features:* oil 41.7%, suitable for multiple cropping system, can be successfully grown after harvest of *Kharif* crops (September), high temperature tolerant.
4. **Pusa Mustard 28:** *Area:* Zone-II; Rajasthan, Haryana, Punjab, Delhi, plains of Jammu & Kashmir, Himachal Pradesh and Western Uttar Pradesh, *Season:* Rabi, *Production condition:* early sown (first week of September) irrigated, *Average yield:* 19.9 q/ha, *Maturity:* 107 days,

*Salient features:* oil 41.5%, suitable for multiple cropping system between September (after harvest of *Kharif* crops), high temperature tolerant.

5. **Pusa Mustard 30:** *Area:* Eastern Rajasthan, Madhya Pradesh, Uttar Pradesh, and Uttarakhand, *Season:* Rabi, *Production condition:* timely sown, irrigated, *Average yield:* 18.24 q/ha, oil 37.7%, *Maturity:* 137 days, *Salient features:* single zero mustard variety with <2% erucic acid content in oil.
6. **Pusa Double Zero Mustard 31:** *Area:* Zone-II; Punjab, Haryana, Delhi, Jammu and Northern Rajasthan, *Season:* Rabi, *Production condition:* timely sown irrigated, *Average yield:* 23.3 q/ha, *Maturity:* 142 days, *Salient features:* Double low (<2% erucic acid and <30 ppm glucosinolates) variety, yellow seeded variety with 41% oil content.
7. **Pusa Mustard 32:** *Area:* Rajasthan (Northern and Western parts), Punjab, Haryana, Delhi, Western Uttar Pradesh, plains of Jammu & Kashmir and Himachal Pradesh, *Season:* Rabi, *Production condition:* timely sown irrigated, *Average yield:* 27.1 q/ha, oil 38.0%, *Maturity:* 145 days, *Salient features:* single zero mustard variety with <2% erucic acid content in oil.

### Soybean

1. **Pusa Soybean 9712:** *Area:* NCR of Delhi, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 22.5 q/ha, *Maturity:* 115 days, *Salient features:* resistant to mungbean yellow mosaic virus.
2. **Pusa 12:** *Area:* NPZ, *Season:* Kharif, *Production condition:* irrigated, *Average yield:* 22.9 q/ha, *Maturity:* 128 days, *Salient features:* resistant against yellow mosaic virus, *Rhizoctonia* aerial blight, bacterial pustule and moderately resistant to stem fly and defoliators.

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