## CROP VARIETIES DEVELOPED BY SKUAST-JAMMU





Directorate of Research
Sher-e-Kashmir University of Agricultural Sciences
& Technology of Jammu, Main Campus, Chatha- 180 009 (J&K)

# CROP VARIETIES DEVELOPED BY SKUAST-JAMMU

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SKUAST-Jammu has developed 28 varieties in different field and horticultural crops, with improved agronomical traits including resistance to insect pests and diseases. One variety of rice Basna-Mati (Traditional variety of Basmati) is also being maintained by School of Biotechnology. The released varieties include 05 of rice, 05 of wheat, 02 of maize, 08 of oilseeds, 01 of pulses, 06 of vegetables and 01 of mango fruit crops.

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#### **FOREWARD**

Biotic and abiotic stresses with passage of time cause breakdown of genetic potential of newly released varieties. So development of high yielding varieties remain a continuous process to maintain high productivity per unit area. With the climate change experiences it has become imperative that varieties are associated with features of resilience against climatic stresses to give sustainable production. Magnitude of climatic stresses varies from place to place, necessitating development of location specific varieties. SKUAST Jammu, which has mandate for Jammu province, has so far developed 28 varieties to cater to the needs of farmers of this area. The information on these varieties has been compiled by Directorate of Research in the form of a booklet, "Crop varieties developed by SKUAST-Jammu". This will serve as a ready reckoner for field functionaries, students and farmers to know about the genetic potential of these varieties. I appreciate the efforts of Directorate of Research for compilation and publication of this booklet.

(Prof. Pradeep K. Sharma)



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Rice: Basmati 370

## 1. Rice: Basmati 370

| Year of Notification         | 1976   |  |  |  |
|------------------------------|--|--|--|--|
| Parentage                    | Selection from land races of Basmati                       |  |  |  |
| <b>Breeding method</b>       | Pure line selection  |  |  |  |
| <b>Production conditions</b> | Transplanted   |  |  |  |
| Recommended areas            | Basmati growing areas Jammu, Samba and Kathua districts of |  |  |  |
|                              | Jammu region   |  |  |  |
| Duration                     | 150-160 days   |  |  |  |
| Yield                        | 25±5 q/ha  |  |  |  |
| Characteristics              | ■ Long slender grains (6.6± to 0.4 mm)                     |  |  |  |
|                              | Highly aromatic grain                                      |  |  |  |
|                              | Non sticky   |  |  |  |
|                              | Soft texture   |  |  |  |



Ranbir Basmati (IET 11348)

## 2. Ranbir Basmati (IET 11348)

| Year of Released             | 1995   |  |  |  |
|------------------------------|--|--|--|--|
| Parentage                    | Selection from Basmati 370                                       |  |  |  |
| Breeding method              | Pure line selection  |  |  |  |
| <b>Production conditions</b> | Irrigated Transplanted   |  |  |  |
| Recommended                  | Suited to the non-basmati growing areas like Rajouri and         |  |  |  |
| areas                        | Poonch districts because of its earliness in addition to Jammu,  |  |  |  |
|                              | Samba and Kathua   |  |  |  |
| Duration                     | 120-125days  |  |  |  |
| Average yield                | 25-30 q/ha   |  |  |  |
| Characteristics              | <ul> <li>Matures in 20-25 days earlier to Basmati 370</li> </ul> |  |  |  |
|                              | <ul> <li>Long slender grains</li> </ul>                          |  |  |  |
|                              | <ul> <li>Quality at par with Basmati 370</li> </ul>              |  |  |  |
|                              |  |  |  |  |



Saanwal Basmati (IET 15815)

## 3. Saanwal Basmati (IET 15815)

| Year of Release       | 2005   |  |
|-----------------------|--|--|
| Parentage             | A secondary selection from Basmati 370                           |  |
| Breeding method       | Selection  |  |
| Production conditions | Irrigated Transplanted   |  |
| Recommended areas     | Irrigated areas of Jammu, Samba and Kathua                       |  |
|                       | districts  |  |
| Duration              | 140-145days  |  |
| Average yield         | 30-35 q/ha   |  |
| Characteristics       | <ul> <li>Having compact and straight panicle</li> </ul>          |  |
|                       | <ul> <li>Matures in, 7-10 days earlier to Basmati</li> </ul>     |  |
|                       | 370  |  |
|                       | <ul> <li>Moderately resistant to shattering, slightly</li> </ul> |  |
|                       | responsive to fertilizers than basmati 370                       |  |
|                       | <ul> <li>Quality parameters at par with Basmati 370</li> </ul>   |  |
|                       | <ul> <li>Has a yield advantage of 10.0 to 15.0 % over</li> </ul> |  |
|                       | Basmati 370  |  |



Basmati 564 (IET 17269)

## 4. Basmati 564 (IET 17269)

| Year of Release              | 2014  |  |
|------------------------------|---|--|
| Parentage                    | Selection from basmati  |  |
| Breeding method              | Selection   |  |
| <b>Production conditions</b> | Irrigated Transplanted  |  |
| Recommended areas            | Irrigated areas of Jammu, Samba and Kathua  |  |
|                              | districts   |  |
| Duration                     | 130-135 days  |  |
| Average yield                | 35-40 q/ha  |  |
| Characteristics              | <ul> <li>Has grain quality at par with that of Basmati 370</li> <li>Resistant to lodging and other biotic stresses</li> <li>Has a yield advantage of more than 15% over Basmati 370</li> <li>Has semi-dwarf plant type</li> </ul> |  |



**SJR 5 (IET 19972)** 

## 5. SJR 5 (IET 19972)

| Year of Release       | National Release Notified in 2011 for cultivation                       |  |  |  |
|-----------------------|---|--|--|--|
| Parentage             | IR25393-57/RD23//IR27316-96///SPRLR77205-3-2/                           |  |  |  |
|                       | SPRLR79134-51-2   |  |  |  |
| Breeding method       | Hybridization followed by pedigree selection                            |  |  |  |
| Production conditions | Irrigated ecology   |  |  |  |
| Recommended areas     | J&K, Haryana and Tamil Nadu   |  |  |  |
| Duration              | 135 days  |  |  |  |
| Average yield         | 52-55 q/ha  |  |  |  |
| Characteristics       | <ul> <li>Has head rice recovery (HRR) 68.25%</li> </ul>                 |  |  |  |
|                       | • Grain len gth 6.96 mm, amylose content 24.57%                         |  |  |  |
|                       | and soft gel consistency  |  |  |  |
|                       | <ul> <li>Resistant to leaf blast and moderately resistant to</li> </ul> |  |  |  |
|                       | brown spot & bacterial leaf blight                                      |  |  |  |
|                       | • Yield potential: 55-60 q/ha   |  |  |  |
|                       | Alternative to Jaya and PC 19   |  |  |  |



Jammu Basmati 129 (SJR-129-2-2)

## 6. Jammu Basmati 129 (SJR-129-2-2)

| Year of Release       | 2017   |  |  |  |
|-----------------------|--|--|--|--|
| Parentage             | IR75483-385-2-2/PB-1/P2511   |  |  |  |
| Breeding method       | Hybridization followed by pedigree method of selection.  |  |  |  |
| Production conditions | Transplanted   |  |  |  |
| Recommended areas     | Basmati growing belt of Jammu, Samba and Kathua  |  |  |  |
|                       | Districts  |  |  |  |
| Duration              | 130-135 days   |  |  |  |
| Average yield         | 40±5 q/ha  |  |  |  |
| Characteristics       | <ul> <li>Short stature, white coloured ligule, erect leaf flag, well exerted panicles with deflexed curvature</li> <li>Long slender grain of 7.3 mm coupled with other desirable basmati quality characters like HRR (56.3%), amylose content (22.4%) soft gel consistency and good aroma</li> <li>Resistant to lodging due to its short stature and moderately resistant to stem borer, leaf folder and bacterial leaf blight</li> <li>Matures 15 days earlier than Basmati 370</li> <li>Grain yield superiority of more than 15% over Basmati 370</li> </ul> |  |  |  |



Basna Mati (Traditional Variety)

## 7. Basna Mati (Traditional Variety)

| Variety                | Basna Mati                                |  |  |  |
|------------------------|---|--|--|--|
| Parentage              | Local land race of Basmati. Popular among |  |  |  |
|                        | farmers                                   |  |  |  |
| <b>Breeding method</b> | Pure line selection                       |  |  |  |
| Production             | Transplanted                              |  |  |  |
| conditions             |   |  |  |  |
| Recommended            | Basmati growing areas Jammu, Samba and    |  |  |  |
| areas                  | Kathua districts of Jammu region          |  |  |  |
| Duration               | 150-155 days                              |  |  |  |
| Plant height           | 155-160 cm                                |  |  |  |
| Average Yield          | 35-37 q/ha                                |  |  |  |
| Characteristics        | Highly aromatic                           |  |  |  |
|                        | Soft texture grains                       |  |  |  |
|                        | Non-sticky grains                         |  |  |  |
|                        | • Long slender grains of size 6.8±0.2 mm  |  |  |  |

#### Grain quality traits of Basna Mati and Basmati 370

|         | Length<br>(mm) | Breadth<br>(mm) | L/B ratio | KLAC<br>(mm) | ASV | Volume<br>expansion<br>ratio | Water<br>uptake<br>ratio | Gel<br>consistency<br>(cm) | Amylose<br>(%) | Cooking<br>time<br>(Min) |
|---------|----------------|-----------------|-----------|--------------|-----|------------------------------|--------------------------|----------------------------|----------------|--------------------------|
| Basna   | 7.150          | 1.644           | 4.34      | 12.3         | 5   | 3.38                         | 1.07                     | 8.7                        | 24.6           | 12                       |
| Mati    |                |                 |           |              |     |                              |                          |                            |                |                          |
| Basmati | 6.898          | 1.730           | 3.98      | 13.1         | 4   | 3.68                         | 1.05                     | 4.2                        | 22.4           | 15                       |
| 370     |                |                 |           |              |     |                              |                          |                            |                |                          |



Wheat: RSP 81

## 8.Wheat: RSP 81

| Year of Released       | 1999  |  |  |  |
|------------------------|---|--|--|--|
| Parentage              | Magpie 's'/ Tessopeco 76  |  |  |  |
| <b>Breeding Method</b> | Selection   |  |  |  |
| Production             | Timely sown rainfed conditions  |  |  |  |
| conditions             |   |  |  |  |
| Recommended areas      | Rainfed areas of Jammu region   |  |  |  |
| Duration               | 150-160   |  |  |  |
| Average Yield          | 30-35 q/ha  |  |  |  |
| Characteristics        | <ul> <li>Has strong root system and stiff straw, beneficial for drought resistance</li> <li>Easy threshability and has white glumes with profuse awns</li> <li>Grains are attractive, amber, medium-sized with</li> </ul> |  |  |  |
|                        | <ul> <li>1000-grains weight of about 38g</li> <li>Moderately resistant to lodging, yellow and brown rust</li> </ul>   |  |  |  |



Wheat: RSP 303

## 9.Wheat: RSP 303

| Year of Released       | 2001 (State level)                                 |  |  |  |
|------------------------|--|--|--|--|
| Parentage              | DT35/HD2428  |  |  |  |
| <b>Breeding Method</b> | Modified pedigree                                  |  |  |  |
| Production             | Normal sown irrigated conditions                   |  |  |  |
| conditions             |  |  |  |  |
| Recommended areas      | Rainfed areas of Jammu region                      |  |  |  |
| Duration               | 140-150  |  |  |  |
| Average Yield          | 45-50 q/ha   |  |  |  |
| Characteristics        | Semi dwarf variety                                 |  |  |  |
|                        | Moderately resistant to lodging, yellow and brown  |  |  |  |
|                        | rust   |  |  |  |
|                        | Has strong root system and stiff straw, beneficial |  |  |  |
|                        | for drought resistance                             |  |  |  |
|                        | Easy threshability and has white glumes and        |  |  |  |
|                        | profuse awns                                       |  |  |  |
|                        | Grains are attractive, amber, medium sized with    |  |  |  |
|                        | 1000 grains weight of about 36g                    |  |  |  |



Wheat: RSP 561

## 10. Wheat: RSP 561

| Year of Released             | 2015  |  |  |  |
|------------------------------|---|--|--|--|
| Parentage                    | HD 2637 /Ae. crassa/ HD 2687  |  |  |  |
| <b>Breeding Method</b>       | Modified pedigree   |  |  |  |
| <b>Production conditions</b> | Timely sown irrigated conditions  |  |  |  |
| Recommended areas            | Plains and mid-hills of Jammu region like Jammu, Samba,                           |  |  |  |
|                              | Kathua, Udhampur, Reasi, Rajouri and Poonch districts                             |  |  |  |
| Duration                     | 130-150 days  |  |  |  |
| Average Yield                | 42-50 q/ha  |  |  |  |
| Characteristics              | Extra long spike and green apiculus.  |  |  |  |
|                              | <ul> <li>Semi erect, takes 80-90 days to 50% flowering.</li> </ul>                |  |  |  |
|                              | <ul> <li>Yield advantage of 15-30 per cent over PBW 343</li> </ul>                |  |  |  |
|                              | <ul> <li>Moderately resistant to lodgin .</li> </ul>                              |  |  |  |
|                              | <ul> <li>Moderately resistant to all three rusts (yellow/ stripe, leaf</li> </ul> |  |  |  |
|                              | and stem rust)  |  |  |  |
|                              | Excellent grain characters (semi hard to hard texture and                         |  |  |  |
|                              | amber coloured) and good chapatti making quality with                             |  |  |  |
|                              | 10.33% protein  |  |  |  |
|                              | High iron, zinc and manganese content in grain than the check                     |  |  |  |
|                              | Possesses terminal heat tolerance with high canopy                                |  |  |  |
|                              | temperature depression and low reduction in chlorophyll                           |  |  |  |
|                              | under late sown condition   |  |  |  |
|                              | Potential to withstand present late heat conditions                               |  |  |  |
|                              | prevailing due to climatic change   |  |  |  |
|                              | Can with stand elevated temperature during flowering                              |  |  |  |
|                              | and maturity  |  |  |  |
|                              | <ul> <li>Can be an alternative to PBW 343</li> </ul>                              |  |  |  |



**Wheat: Jammu Wheat 584 (JAUW 584)** 

## 11. Wheat: Jammu Wheat 584 (JAUW 584)

| Year of Released       | 2017  |
|------------------------|---|
| Parentage              | PDW233/ Ae. crassa //PBW 343                            |
| <b>Breeding Method</b> | Modified pedigree                                       |
| Production             | Timely sown irrigated conditions                        |
| conditions             |   |
| Recommended            | Irrigated plain and mid hill areas of Jammu region like |
| areas                  | Jammu, Samba, Kathua, Udhampur, Reasi and Rajouri       |
|                        | districts   |
| Duration               | 140-155 days  |
| Average Yield          | 45-52 q/ha  |
| Characteristics        | Bold grain, semi hard to hard texture, amber colour     |
|                        | with high protein content (12.06%)                      |
|                        | Moderately resistant to yellow and brown rusts          |



Wheat: Jammu Wheat 598 (JAUW 598)

## 12. Wheat: Jammu Wheat 598 (JAUW 598)

| Year of Released       | 2017   |
|------------------------|--|
| Parentage              | HD 4702/ Ae.sharonensis/ HD 2687   |
| <b>Breeding method</b> | Modified pedigree  |
| Production             | Rainfed areas of Jammu province  |
| conditions             |  |
| Recommended            | Rainfed plain and mid hill areas of Jammu region like  |
| areas                  | Samba, Kathua, Udhampur, Reasi and Rajouri   |
| Duration               | 155-165 days   |
| Average Yield          | 40-42 q/ha   |
| Characteristics        | <ul> <li>Has excellent grain characters (bold grain, semi hard to hard amber colour seed), high protein content (12.8%) over the check (PBW 175 and PBW 644)</li> <li>Moderately resistant to lodging</li> <li>Moderately resistant to yellow, brown rusts and blight disease</li> </ul> |



Maize: PHM 12 (JPMH 4)

## 13. Maize: PHM 12 (JPMH 4)

| Year of Released             | 2013   |
|------------------------------|--|
| Parentage                    | B 1-19 x B 1-20                                    |
| <b>Breeding method</b>       | Hybridization                                      |
| <b>Production conditions</b> | Mid hill ecology                                   |
| Recommended areas            | Irrigated plains of Jammu province                 |
| Duration                     | 130-135 days                                       |
| Average Yield                | 45-50 q/ha   |
| Characteristics              | Yellow single cross maize hybrid variety           |
|                              | Single cross hybrid with wide adaptability         |
|                              | Has feature like small leaf angle, straight leaf   |
|                              | attitude, canico-cylindrical ear shape and semi    |
|                              | flint yellow grain type                            |
|                              | • High shelling 85.64%, with average cob length of |
|                              | 20.75 cm and good test weight of 334.6g            |



Maize: Jammu Maize Composite 3 (PMSY 3)

## 14. Maize: Jammu Maize Composite 3 (PMSY 3)

| Year of Released             | 2017  |
|------------------------------|---|
| Parentage Breeding           | Composites of inbred lines  |
| method                       |   |
| <b>Production conditions</b> | Mid hill ecology  |
| Recommended areas            | Mid hill of Jammu province  |
| Duration                     | 130-135 days  |
| Average Yield                | 50-60 q/ha  |
| Characteristics              | <ul> <li>Yellow grain composite, small leaf angle, semi-drooping leaf attitude, canico-cylindrical ear shape and semi flint yellow grain type</li> <li>High shelling 84.33% with average cob length of 22.4 cm and test weight of 314.3 g</li> <li>Moderately resistance to Turcicum and Maydis leaf blight, stem borer and blister beetle</li> </ul> |



Toria: RSPT-1 (TCN-12)

## 15. Toria: RSPT-1 (TCN-12)

| Year of Released             | 2005   |
|------------------------------|--|
| Parentage Breeding           | Selection from local germplasms, Mass selection                                |
| method                       |  |
| <b>Production conditions</b> | Timely sown irrigated/ rainfed conditions                                      |
| Recommended areas            | Subtropical areas of Jammu division like Jammu,                                |
|                              | Samba, Kathua and some parts of Udhampur and                                   |
|                              | Reasi Districts  |
| Duration                     | 80-90 days   |
| Average Yield                | 6-8 q/ha   |
| Characteristics              | Has broad leaves, resistance to lodging and responsive to fertilizers          |
|                              | Early maturity   |
|                              | Contain 40 per cent oil content  |
|                              | Resistant to white rust and possesses moderate resistance to Alternaria blight |



Toria: RSPT-2 (TCN-04-22)

RSPT-2

#### 16. Toria: RSPT-2 (TCN-04-22)

| Year of Released             | 2007   |
|------------------------------|--|
| Parentage                    | Selection from local germplasms                  |
| <b>Breeding method</b>       | Mass Selection                                   |
| <b>Production conditions</b> | Timely sown irrigated/ rainfed condition         |
| Recommended areas            | Sub tropical areas of Jammu Division like Jammu, |
|                              | Samba, Kathua and some parts of Udhampur and     |
|                              | Reasi Districts                                  |
| Duration                     | 65-75 days                                       |
| Average Yield                | 7-8 q/ha   |
| Characteristics              | Has broad leaves, resistance to lodging and      |
|                              | responsive to fertilizers                        |
|                              | Matures one week earlier than RSPT-2             |
|                              | Contains 41 per cent oil content                 |
|                              | Resistant to white rust and Alternaria blight    |



Toria: Jammu Toria-6 (RSPT-6)

### 17. Toria: Jammu Toria-6 (RSPT-6)

| Year of Released             | 2017   |
|------------------------------|--|
| Parentage                    | RSPT-1 x RSPT-2  |
| <b>Breeding method</b>       | Intra-specific hybridization followed by selection   |
| <b>Production conditions</b> | Early sown irrigated/rainfed conditions  |
| Recommended areas            | Sub tropical areas of Jammu division like Jammu,   |
|                              | Kathua, Samba and some parts of Udhampur and   |
|                              | Reasi Districts  |
| Duration                     | 85-90 days   |
| Average Yield                | 10-12 q/ha   |
| Characteristics              | Has narrow leaves, resistance to lodging, basal branching  |
|                              | Fits well in maize-toria-wheat rotation for rainfed areas and short duration rice-toria-wheat in irrigated areas |
|                              | Contains 42 per cent oil content   |
|                              | Moderately resistant to aphid infestation, Alternaria blight and White rust                                      |



Raya: RSPR-01 (MCN-29)

### 18. Raya: RSPR-01 (MCN-29)

| Year of Released       | 2005  |
|------------------------|---|
| Parentage              | Brassica juncea x Diplotaxis muralis                |
| <b>Breeding method</b> | Distant hybridization followed by pedigree method   |
| Production             | Timely sown irrigated/ rainfed conditions           |
| conditions             |   |
| Recommended areas      | Sub tropical areas of Jammu Division like Jammu,    |
|                        | Samba, Kathua and some parts of Udhampur and        |
|                        | Reasi districts                                     |
| Duration               | 140-145 days  |
| Average Yield          | 12-15 q/ha  |
| Characteristics        | Has broad leaves                                    |
|                        | Resistance to lodging and responsive to fertilizers |
|                        | Medium early maturity                               |
|                        | Possesses primary branches/plant 8-12 and           |
|                        | seeds/pod 20-25                                     |
|                        | Contains 40 per cent oil content                    |
|                        | Moderately resistant to white rust, aphids and      |
|                        | Alternaria blight                                   |



RAYA: RSPR 03

#### 19. RAYA: RSPR 03

| Year of Released       | 2005  |
|------------------------|---|
| Parentage              | Selection from the exotic collection  |
| <b>Breeding method</b> | Pure line selection   |
| Production             | Timely sown irrigated conditions  |
| conditions             |   |
| Recommended areas      | Subtropical areas of Jammu Division like Jammu,   |
|                        | Samba, Kathua and some parts of Udhampur and  |
|                        | Reasi districts   |
| Duration               | 150-170 days  |
| Average Yield          | 16-18 q/ha  |
| Characteristics        | <ul> <li>Leaves are thick, smooth and sweet in taste and give high quality saag</li> <li>Broad leaves, resistant to lodging and responsive to fertilizers</li> <li>Distinguishing morphological characters like primary branches 8-12, secondary branches 10-18 and seeds/ pod 20-25</li> <li>Has low erucic acid and glucosinolate</li> <li>Profusely branched with intense pod-bearing capacity</li> <li>Contain 42% oil content</li> </ul> |



Mustard: Jammu Raya 69 (RSPR-69)

## 20. Mustard: Jammu Raya 69 (RSPR-69)

| Year of Released             | 2017   |
|------------------------------|--|
| Parentage                    | RLM 198 and Varuna                                     |
| <b>Breeding method</b>       | Hybridization followed by pedigree selection           |
| <b>Production conditions</b> | Timely sown conditions                                 |
| Recommended areas            | Subtropical areas of Jammu Division like Jammu, Samba, |
|                              | Kathua and some parts of Udhampur and Reasi            |
| Duration                     | 135-145 days   |
| Average Yield                | 15-16 q/ha   |
| Characteristics              | Has broad leaves, basal branching and resistant to     |
|                              | lodging  |
|                              | Mature 8 days earlier than check varieties             |
|                              | Moderately resistant to aphid infestation and          |
|                              | Alternaria blight and white rust diseases              |
|                              | Contains 39.4% oil content                             |



Gobhi Sarson: DGS-1 (NCN-18)

#### 21. Gobhi Sarson: DGS-1 (NCN-18)

| Year of Released             | 2005  |
|------------------------------|---|
| Parentage                    | Selection from the exotic collection  |
| <b>Breeding method</b>       | Pure line selection   |
| <b>Production conditions</b> | Timely sown irrigated conditions  |
| Recommended areas            | Subtropical areas of Jammu division like Jammu,   |
|                              | Samba, Kathua and some parts of Udhampur and  |
|                              | Reasi districts   |
| Duration                     | 150-170 days  |
| Average Yield                | 16-18 q/ha  |
| Characteristics              | <ul> <li>Leaves are thick, smooth and sweet in taste and give high quality saag</li> <li>Broad leaves, resistant to lodging and responsive to fertizers</li> <li>Distinguishing morphological characters like primary branches 8-12, secondary branches 10-18 and seeds/ pod 20-25</li> <li>Has low erucic acid and glucosinolate</li> <li>Profusely branched with intense pod-bearing capacity</li> <li>Contain 42% oil content</li> </ul> |



Gobhi Sarson : RSPN-25 (NCN-15)

#### 22. Gobhi Sarson: RSPN-25 (NCN-15)

| Year of Released             | 2005  |
|------------------------------|---|
| Parentage                    | Brassica napus X Brassica hirta                     |
| <b>Breeding method</b>       | Inter specific hybridization followed by selection  |
| <b>Production conditions</b> | Timely sown irrigated conditions                    |
| Recommended areas            | Sub tropical areas of Jammu division like Jammu,    |
|                              | Samba, Kathua and some parts of Udhampur and        |
|                              | Reasi districts                                     |
| Duration                     | 145-155 days  |
| Average Yield                | 15-20 q/ha  |
| Characteristics              | Has broad leaves, basal branching                   |
|                              | Resistant to lodging and responsive to fertilizers  |
|                              | Distinguishing morphological characters like        |
|                              | primary branches/plant 10-12, secondary             |
|                              | branches/plant 10-18 and seeds/pod 12-16            |
|                              | Contains 39% oil content                            |
|                              | • 13-16 % yield advantage over check (GSL-1)        |
|                              | Resistant to white rust and moderately resistant to |
|                              | Alternaria blight and major pests                   |





Chick pea: SCS-3

### 23. Chick pea: SCS-3

| Year of Released             | 2005  |
|------------------------------|---|
| Parentage                    | IPC-97-67   |
| <b>Breeding Method</b>       | Pure line selection   |
| <b>Production conditions</b> | Timely sown rainfed conditions.   |
| Recommended areas            | Chickpea growing areas under Sub tropical climate   |
|                              | of Jammu region   |
| Duration                     | 157-167 days  |
| Average Yield                | 20-25 q/ha  |
| Characteristics              | <ul> <li>Semi tall (62-65cm), erect plant type with two grains per pod and medium maturity</li> <li>Seeds are medium size, brown in colour with 100-seed weight of 22 g</li> <li>Good cooking quality with protein content of 21 per cent and methionine content of 1.3g/mg</li> <li>Superior to popular varieties C-235 and PBG-1 in grain yield and grain size</li> <li>Moderately resi stance to wilt/root rot disease complex</li> <li>Tolerant to pod borer and drought</li> </ul> |



Knol-Khol: G-40 (SJKK-01)

### 24. Knol-Khol: G-40 (SJKK-01)

| Year of Released             | 2013  |
|------------------------------|---|
|                              |   |
| Parentage                    | White Vienna  |
| <b>Breeding Method</b>       | Mass selection  |
| <b>Production conditions</b> | Transplanted crop   |
| Recommended areas            | Subtropical and mid hill zone   |
| Duration                     | 30-35 days  |
| Average Yield                | 300-350 q/ha  |
| Characteristics              | <ul> <li>Possesses good globular flat knob with earliness to knob formation, sweet in taste and remain non fibrous till marketable maturity (6-7.5 cm diameter) and erect leaf habit</li> <li>Knob is less fibrous even at higher weight so suitable for pickle purpose</li> <li>Short stalk length, smooth green leaves with erect plant type</li> <li>An early maturing variety with 30 days to marketing marketing</li> <li>Round dark brown seed with test weight of 3-4 g</li> <li>Tolerant to Alternaria blight, stalk rot, downy mildew diseases and cabbage butter fly and semiloopers</li> <li>Average yield of 252.4q/ha</li> <li>Fits well for seed production under sub tropical conditions of Jammu</li> </ul> |



Jammu Broccoli (Early Green)

### 25. Jammu Broccoli (Early Green)

| Tr en l               | 2015   |
|-----------------------|--|
| Year of Released      | 2017   |
| Parentage             | Selection from KTS-1   |
| Breeding Method       | Individual plant selected  |
| Production conditions | Transplanted crop  |
| Recommended areas     | Sub-tropical plain and mid hill conditions of  |
|                       | Jammu region   |
| Duration              | 150-160 days (seed to seed)  |
| Average Yield         | 180-200 q/ha (curd), 5-6 q/ha (seed)   |
| Characteristics       | <ul> <li>Produces dark green coloured curds of the size of 120-140g and produces 7-8 lateral shoots of the size of 50-70g per plant after harvesting of main curd</li> <li>Yield superiority of 22 per cent over the check (KTS-120)</li> <li>Upright plant type, dark green leaves with wavy margins and takes 22-24 days to 50% knob formation</li> <li>Ready for harvest after 75-80 days after harvesting</li> <li>Seeds are brown in colour, round shaped with test weight of 12-15g</li> <li>Low chilling requirement</li> <li>Ability to set quality seed under sub tropical plains of Jammu</li> <li>Moderately resistant to prevalent diseases (Black rot, stalk rot and alternaria leaf spot) and pests</li> </ul> |



Coriander: Jammu Coriander-07 (Khushboo)

# 26. Coriander: Jammu Coriander-07 (Khushboo)

| Year of Released             | 2017   |
|------------------------------|--|
| Parentage                    | Selection from local germplasm collected from Marh |
|                              | (Jammu)  |
| <b>Breeding Method</b>       | Mass selection                                     |
| <b>Production conditions</b> | Direct sown crop                                   |
| Recommended areas            | Subtropical and mid hill zones of Jammu            |
| Duration                     | 100-120 days (green leaves)                        |
| Average Yield                | 150-160 q/ha (green leaves)                        |
|                              | 10-15q/ha (seed)                                   |
| Characteristics              | Semi spreading plant type                          |
|                              | Leaves are dark green and rich in fragrance/aroma  |
|                              | Short duration, ready for first cut in 30 days     |
|                              | Late bolting and multi-cut variety, 4-5 cuts in    |
|                              | winter season                                      |
|                              | • First cutting 28-35 days after sowing and        |
|                              | subsequent cutting 22-25 days after first cutting  |
|                              | Round shaped light brown seed with test weight     |
|                              | of 10-12g  |
|                              | Yield advantage of 24 % over check                 |
|                              | Moderately resistance to Alternaria leaf spot,     |
|                              | blight, viruses and aphids                         |



Okra : Jammu Okra-08 (Seli Special)

# 27. Okra: Jammu Okra-08 (Seli Special)

| Year of Released             | 2017  |
|------------------------------|---|
| Parentage                    | Varsha Uphaar x VRO-05-01   |
| <b>Breeding Method</b>       | Hybridization   |
| <b>Production conditions</b> | Direct sown crop  |
| Recommended areas            | Subtropical and mid hill zone   |
| Duration                     | 40-45 days (seed to fruiting)   |
|                              | 100-120 days (seed to seed)   |
| Average Yield                | 120-150 q/ha (fruits), 5-6 q/ha (seed)  |
| Characteristics              | <ul> <li>The fruits are dark green in colour, medium in size with high shelling percentage, table purpose, tender and straight</li> <li>Fruits remain tender 7 days after fruit set and comparatively less mucilaginous</li> <li>Medium tall (90-100 cm) with short inter nodal distance and profuse bearing</li> <li>Early maturing variety</li> <li>First flower appears at 3<sup>rd</sup> to 4<sup>th</sup> node making it early fruit bearing variety</li> <li>The plant bear 25-30 fruits with edible fruit length (17-20 cm), seed fruit length (17-20cm) and average fruit weight of 10-15 g</li> <li>15% superiority over check (Pusa sawani)</li> <li>Seeds are greenish, round shaped with test weight of 8-9g</li> <li>Resistance to lodging, shattering and heavy response to fertilizers</li> <li>Field resistant to yellow vein mosaic virus</li> </ul> |



Fenugreek: Jammu Methi-07 (Kasuri Supreme)

# 28. Fenugreek: Jammu Methi-07 (Kasuri Supreme)

| Year of Released      | 2017  |  |  |
|-----------------------|---|--|--|
| Parentage             | Selection from local germplasms.  |  |  |
| Breeding Method       | Pure line selection   |  |  |
| Production conditions | Direct sown   |  |  |
| Recommended areas     | Subtropical and intermediate zones of Jammu   |  |  |
| Duration              | • 100-120 days (vegetable crop)   |  |  |
|                       | • 190-210 days (seed crop)  |  |  |
| Average Yield         | • 200-250 q/ha(green leaves), 6-7 q/ha (seed)   |  |  |
| Characteristics       | <ul> <li>Dwarf variety with plant height of 25-30 cm and<br/>dark green, broad lobed leaves</li> </ul>  |  |  |
|                       | <ul> <li>Plants are fragrant at flowering, fruits sickle shaped, leaves small and relatively less bitter</li> <li>Bushy type and ready for first cut after 30-35 days of sowing</li> </ul>  |  |  |
|                       | <ul> <li>Short duration, a multi-cut variety giving 4-5 cuts in rabi season each at 25-30 days intervals and can left for seed production after 4 cuts</li> <li>Seeds are light yellowish brown colour, cuboid shaped with test weight of 1.60-1.75g</li> <li>Uniform and stable in reproduction through seed</li> <li>Performed consistently better over check.</li> <li>An alternative to the other popular varieties/hybrids</li> <li>Yield advantage of 16% over check</li> </ul> |  |  |
|                       | <ul> <li>Possesses field tolerance to Alternaria,</li> <li>Rhizoctonia and viruses</li> </ul>   |  |  |



Spinach: Jammu Palak-07 (C-13)

### 29. Spinach: Jammu Palak-07 (C-13)

| V CD I I               | 2017  |  |  |
|------------------------|---|--|--|
| Year of Released       | 2017  |  |  |
| Parentage              | A selection from 13 diverse genotypes collected from  |  |  |
|                        | different parts of the country  |  |  |
| <b>Breeding Method</b> | Mass selection  |  |  |
| Production conditions  | Direct sown   |  |  |
| Recommended areas      | Subtropical /intermediate zone of Jammu.  |  |  |
| Duration               | 120-130 days (green leaves)   |  |  |
| Average Yield          | 150-160 q/ha (green leaves)   |  |  |
|                        | 8-10 q/ha (seed)  |  |  |
| Characteristics        | <ul> <li>Short duration, a multi-cut variety with smooth dark green semi erect leaves with entire margins and the plant type is erect with a plant height of 35-45 cm</li> <li>Is ready for first harvest after 25-30 days of sowing and subsequent cuts are taken after 20-25 days</li> <li>For green leaves, 4-5 cuts can be taken within a span of 120-130 days</li> <li>Very high yielding strain performing consistently over the checks</li> <li>Seeds are light brown, lenticular shaped with test weight of 4-5g</li> <li>Good seed setting capability under Jammu plain</li> <li>16 % yield superiority over check</li> <li>Moderately tolerant to blight and Aternaria leaf spot</li> </ul> |  |  |



Mango: Jammu Mango Selection 5

# 30. Mango: Jammu Mango Selection 5

| Year of Released             | 2017   |  |  |
|------------------------------|--|--|--|
| Parentage                    | Selection from the mango tree of seedling origin.  |  |  |
| <b>Breeding Method</b>       | Pureline Selection   |  |  |
| <b>Production conditions</b> | Grafting   |  |  |
| Recommended Areas            | Rainfed/Kandi area of Jammu sub-tropics  |  |  |
| Characteristics              | <ul> <li>Flowers in the 3rd week of February with full bloom in first week of March</li> <li>Moderately resistant to mango malformation at flowering stage and has higher fruit set (14.66 per cent) with 446.75 number of fruits per tree</li> <li>Has total soluble solids of 18.91° Brix and 14.68% of total sugars</li> <li>Is tolerant to drought during fruit set and fruit development</li> </ul> |  |  |

| Notes: |      |  |
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