

New sweet cherries enrich fruit basket

In order to document the development of new varieties, CITH, Kashmir, initiated the rigorous survey from year 1996 under the institute research project "Survey, collection, characterization and documentation of temperate horticultural crops". The institute identified and collected variability from the centuries old varieties namely Biggareau Napoleon, Bigarreau Noir Grossa, Guigne Noir Hative etc. Presently, institute germplasm bank have 30 sweet and sour cherry genotypes. Of these, four promising type namely, CITH-Cherry-03, CITH-Cherry-05, CITH-Cherry-07 and CITH-Cherry-09 were identified.

SWEET cherry (*Prunus avium*), an important fruit of temperate region, is confined to limited locations of temperate zone due to very specific climatic requirement. It is successfully grown between 2000-2700 meter above mean sea level requiring 1000-1500 chilling hours during winter. Turkey, USA and Iran are leading producer of sweet cherry. India ranks at 26th in world cherry production. In India, it is mainly grown in Jammu and Kashmir, Himachal Pradesh and Uttarakhand. It matures early in summer but limited production and high demand makes it a high value cash crop. The Kashmir Division witness wide range of variability in the cherry fruit (sweet and

sour cherry). The long back introduced varieties have developed clonal variations with respect to fruit weight, size, color, yield and in ripening parameters.

PROMISING VARIETIES

CITH-Cherry-03

This clone was selected from Double (Bigarreau Napoleon) registered with NBPGR as accession no 589103 and tested as AAS/BP/NA/KKS in the experimental farm.

Its trees have height (2.11 m) less than Misri (2.27 m) and Double (2.226 m) variety. Similarly, it has lowest



CITH-Cherry-03



Cherry 3 BP-2



CITH-Cherry-03 fruits at maturity



Cherry-CH-05

trunk girth (21.34 cm) as compared to Misri (36.14 cm) and Double (31.53 cm). The trees are spreading in nature and fit well in high-density planting system.

The flowering starts from last week of March to first week of April with slight delay in cv. Double. The full bloom commences one week after flower initiation. The flowering duration is 15 days in CITH-Cherry-03, whereas it is 11 days in Misri and 18 days in Double. The most compatible partners for this genotypes are Van, Bing, Stella and Lapinus.

It matures 50 days after full bloom, whereas maturation time is 54.4 days in Misri and 49.8 days in Double. The average fruit weight is 6.67 g which is slightly larger than 5.95 g/fruit and yield is 4.9 kg/ tree. At 2.5m × 2.5m spacing, yield after 8 years is 9.97 tonnes/ha. The fruit length and diameter are 22.74 mm and 22.61 mm. The fruits have high total soluble solids content (15.27° Brix).

CITH-Cherry-05

This clone was selected from Misri (Bigarreau Noir Grossa) registered with NBPGR as accession no 589101 as AT Mishri-01. The trees have height (2.07 m) lesser than Misri (2.26 m) and Double (2.25 m). Similarly, it has lowest trunk girth (23.9 cm) as compared to Misri (36.14 cm) and Double (31.53 cm). The trees are spreading in growth.

The flowering starts from last week of March to last week of April. The full bloom commences one week after the flower initiation with two checks (Misri and Double). The flowering duration is 18 days in CITH-Cherry-05,



CITH-Cherry-05

whereas it is 16 days in Misri and 13 days in Double. Under natural condition, fruit set in this clone was recorded high (65.70%). Van, Bing, Stella, Lapinus, CITH-Cherry-01, CITH-Cherry-02 have been found most suitable pollinizers.

There is earliest fruit maturity in Double (Bigarreau Napoleon). The CITH-Cherry-02 matures 52.5 days after full bloom, whereas maturation time is 54.4 days in Misri and 49.8 days in Double. The average fruit weight is 8.83 g which is larger to Misri (5.9 g/fruit) and Double (6.71g/fruit). The fruit length and diameter are 22.14 and 21.52 mm in CITH-Cherry-02. The fruits have high total soluble solids content (16.33° Brix).

CITH-Cherry-07

This clone was selected from Misri (Bigarreau Noir Grossa) registered with NBPGR as accession no 589102. Its trees have height (2.22 m) lesser than Misri (2.26m) and Double (2.25 m) variety. Similarly, it has lowest trunk girth (22.90 cm) as compared to Misri (36.94 cm) and Double (32.53 cm). The trees are spreading in nature



CITH-Cherry-07



CITH-Cherry-07

and fit well in high-density planting system. The annual extension growth recorded 69.33 cm in this clone as compared to 59.88 cm in Double and 76.59 cm in Misri.

Flowering period is from 20th March to 1st week of April with slight delay in cv. Double. The full bloom commences one week after flower initiation. The flowering duration is 17 days in CITH-Cherry-07. Under natural condition, fruit set recorded 55.65%. The suitable compatible pollen providers are Van, Bing, Stella, Lapinus, CITH-Cherry-01, CITH-Cherry-02.

The earliest fruit maturity commences in Double (Bigarreau Napoleon). The CITH-Cherry-07 matures 52 days after full bloom. The average fruit weight is 6.60 g. The fruit length and diameter are 20.50 mm and 21.24 mm in CITH-Cherry-07. The fruits have high total soluble solids content (15.77° Brix).



CITH-Cherry-09

CITH-Cherry-09

This clone was selected from Double (Bigarreau Napoleon) registered with NBPGR as accession no 589109 and field evaluated as AT Misri-05.

Its trees have height (2.04 m) less than Misri (2.27 m) and Double (2.226 m) variety. Similarly, the clone have lowest trunk girth (25.48 cm) as compared to Misri (36.14 cm) and Double (31.53 cm). The trees are spreading in nature and fit well in high-density planting system.

The average 5 years annual extension growth recorded 86.66 cm.

Flowering starts from last week of March to first week of April. The full bloom commences 4 days after flower initiation. The flowering duration is 13-24 days in CITH-Cherry-09. Under open/natural condition, the fruit set is very high (78.0%).

The CITH-Cherry-09 matures 51 days after full bloom whereas maturation time is 54.4 days in Misri and 49.8 days in Double. The average fruit weight is 6.67 g which is slightly larger to 5.95 g/fruit. The clone is high yielder (8.45 kg/tree). After 8-9 years, at 2.5m × 2.5m spacing, yield noted was 13.51 t/ha. The fruit length and diameter are 19.14 mm and 19.15 mm. The fruits have high total soluble solids content (16.09 ° Brix).

CONCLUSION

The CITH-Sweet cherry clones selected from the Double and Misri varieties bear fruits of bigger size and are attractive in shape, colour with high total soluble solids contents and pulp:stone ratio. All previously released varieties (CITH-Cherry-01 and CITH-Cherry-02), and newly introduced ones namely (Bing, Stella, Van



and Lapinus) are suitable pollinizers. The varieties are good in quality with high fruit setting under natural condition (50– 78%).

For further interaction, please write to:

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