

INDIVIDUAL BIOLOGICAL CHARACTERS OF THE REPRESENTATIVES OF THE F5 GENERATION (BC4) (BOTANICAL, AGROBIOLOGICAL AND TECHNOLOGICAL DESCRIPTION)

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Through their development and behavior under environmental conditions, with the influence of biotic and abiotic factors, the biological characters involved in the study, such as the morphological attributes of distant indigenous hybrids – buds, shoots, roots, leaves, inflorescences, berries, etc. – are individually specific [1, 2, 3].

Distant hybrid BC4-721. Shoot growth phase. Regardless of the origin of the shoots on the vine, their dynamics and structure are stable characters. Starting from nodes 3-6, the growth is of the sympodial-monopodial type, and the meristals between every 2 tendrils are long. The tendrils are of medium length and thickness, placed at a constant divergence angle, favoring the sympodial growth of the shoot, constituting a significant ampelographic character. The growing shoot (before the flowering phase) has the first 3 downy white-green leaves, and the 4-5 leaves are green, glabrous on the outside and downy below. At maturity, the shoot is reddish-brown, vertical with a smooth angular outline, and the ratio between the petiole and the midrib is 2 to 1, the sheath and the channel in the section being slightly evident.

The leafing phase and the beginning of shoot formation. The character and size of the leaves are variable, constituting the important index for determining the varieties. The leafing begins with the first leaves at the top, white, with a greenish tint, consecutively, the leaves are smooth above and scaly below. The mature leaves are green, trilobed and glabrous, subsequently, from the last node of insertion of the grape, and until the beginning of the flowering period, they have a petiole of medium length and thickness. The blade is flat, of medium size. The color of the leaf blade and the obvious glabrous veins are green. The shape and depth of the petiole sinus is of the open «U» type. The teeth are of medium type with angular tooth shape and irregular sharp-type placement. The tip of the terminal lobe of the leaf is visibly elongated and pointed. The leaves turn yellow in fall.

Flowering phase. The inflorescence is a compound raceme, located at nodes V, VI and VII, with a varied number of axes, and of medium size – 10-15 cm. The flower is the generative organ of type 5. The corolla opens in the form of a star. The floral bud is globose of medium size. The stamens are located at the level of the stigma, straight, with normal fall. The position of the anthers is perpendicular to

the filament. The pistil is 2.5 mm long with a bilocular ovary, green in color, pear-shaped of about 1.5 mm. The style is filiform of great length. The stigma is bifid. The nectariferous glands are intense orange in color. From a morphological point of view, the flowers are normal, with fertile pollen. During flowering, the pollen has an elongated shape with germination of about 90%. The flowers are bisexual. Indigenous distant hybrids usually bloom at the end of May.

Grape ripening phase. The grapes are conical, uni-winged, with medium and round, spherical berries, characteristic of wine varieties, with a normal ripening period (September 1-15) and appear on the fruit strings immediately after the detachment of the 3rd, 4th and 5th leaves. The size of the grapes is average – 150-300 g, with a length of 10-15 cm and a short herbaceous peduncle.

The phase of berry growth. The first phase of berry development is the increase in volume, followed by the phase in which the embryo develops intensively into the seed, and, subsequently, the third phase – in which the berries resume the increase in volume with maximum intensity. The shape of the berry is cylindrical of small size, about 10.0 mm, with an average diameter of about 12.0 mm. The skin is greenish-white, translucent. The plum is of rare intensity. The pulp is of watery consistency. The must is yellowish, aromatic. The pedicel is of short type with rare lenticels. The brush is difficult to separate from the berry. The seed is conical, with a pointed tip, being larger in size compared to the Eurasian species *V. vinifera* L. and smaller in size than the American species *V. rotundifolia* Michx., after extraction it is brown in color, two in each berry.

Agrobiological characteristics. The active vegetation period is medium, with average temperatures of 7-8°C. The flowering and ripening of grapes are of medium type. Grape ripening and growth is of normal type.

Economic use and characterization. They are used for domestic and foreign consumption. They withstand storage and withstand transportation. They are recommended for the use of grapes for the production of superior dry brand wines and the production of juices.

Distant hybrid BC4-757. Shoot growth phase. Starting from nodes 3-6, growth is sympodial-monopodial, and the meristals between every 2 tendrils are long. Tendrils are medium in length and thickness, arranged at a constant divergence angle. The growing shoot (before the flowering phase) has the first 3 downy white-green leaves, and the leaves 4-5 are green, glabrous on the outside and downy below. At maturity, the shoot is reddish-brown, vertical with a smooth angular outline, the ratio between the petiole and the midrib is 2 to 1, and the sheath and the channel in the section are slightly evident.

The leafing phase and beginning of sprouting. The character and size of the leaves are variable, constituting the important index for determining the varieties. The foliage begins with the first leaves at the top, white, downy, with a greenish tint, consecutively, the leaves are smooth above and scaly below. The mature leaves are dark green, lobed and glabrous, subsequently, from the last node of insertion of the grape – the 14th, until the flowering period they have a petiole of

medium length and thickness. The blade is flat, of medium size. The color of the leaf blade and the obvious glabrous veins are green. The shape and depth of the petiole sinus is of the brace type with overlapping convergent edges. The average dentition has the shape of the teeth angular and sharp, and the arrangement is irregular. The leaves when falling (in autumn) have a red color.

The flowering phase. The inflorescence is a compound raceme with a varied number of axes, of large size – 15-20 cm, and the insertion of the clusters is characterized by the nodes of appearance V, VI and VII, being a variable character. The flower is the generative organ of type 5. The corolla opens in the form of a star. The floral bud is globose, of medium size. The stamens are located at the level of the stigma, are straight, with normal fall. The position of the anthers is perpendicular to the filament. The pistil is 2.5 mm with a green, pear-shaped, bilocular ovary of about 1.5 mm, with intense orange nectar glands. The style is filiform of great length. The stigma is bifid. The nectar glands are intense orange. Morphologically, the flowers are normal with fertile pollen. During flowering, the pollen has an elongated shape with germination of about 90%. The flowers are bisexual. Indigenous distant hybrids usually bloom at the end of May.

Grape ripening phase. The grapes are conical, uni-winged, with medium and rare berries, characteristic of table varieties, with the Chasselos ripening period (August 16-31) and appear on the fruit strings immediately after the detachment of the 3rd, 4th and 5th leaves. The size of the grapes is large – 300-600 g, with a length of 15-20 cm and a lignified peduncle.

Berry growth phase. The berry growth process is represented by the first phase of berry volume growth, followed by the second phase – intensive development of the embryo in the seed and, finally, the third phase, in which the berry indicates a maximum intensity of resumption of volume growth. The shape of the berry is cylindrical of medium size, about 12.0-18.0 mm with an average diameter of about 10.0-15.0 mm. The skin is pink-purple, opaque. The rind is persistent with dense intensity. The pulp is of watery consistency. The must is pink, aromatic, rosy. The pedicel is of a long type with rare lenticels. The brush is medium with easy separation of the berry. The seed is conical, being larger in size compared to the Eurasian species *V. vinifera* L. and smaller in size than the American species *V. rotundifolia* Michx., after extraction it is brown in color, two in each berry.

Agrobiological characteristic. The active vegetation period is medium, with an average temperature of – 7-8°C. The flowering and ripening of grapes are medium. Grape ripening and growth are normal.

Economic use and characterization. They are used for domestic and international consumption. They withstand storage and withstand transportation. Grapes are recommended for table consumption and for use in the production of juices.

Distant hybrid BC4-790. Shoot growth phase. Starting from nodes 3-6, growth is sympodial-monopodial, and the meristals between every 2 tendrils are long. The tendrils are of medium length and thickness, arranged at a constant divergence angle, favoring the sympodial growth of the shoot, constituting a significant

ampelographic character. The growing shoot (before the flowering phase) has the first 3 white leaves with a greenish tint, downy, and the leaves 4-5 are green, glabrous on the outside and downy below. At maturity, the shoot is reddish-brown, vertical with a smooth angular outline, the ratio between the petiole and the midrib is 2 to 1, and the sheath and the channel in section are slightly evident.

The leafing phase and the beginning of shooting. The character and size of the leaves are variable, constituting the important index for determining the varieties. The leafing begins with the first leaves at the top, downy white, with a greenish tint, consecutively, the leaves are smooth above and scaly below. The mature leaves are dark green, lobed and glabrous, subsequently, from the last insertion node of the grape – the 14th, until the flowering period, they have a petiole of medium length and thickness. The blade is flat, of medium size. The color of the leaf blade and the obvious glabrous veins is green. The shape and depth of the petiole sinus is of the open “U” type. The middle denticle with the shape of the teeth is angular and the angular arrangement in steps of 1. The tip of the terminal lobe of the leaf is visibly elongated and sharp. The leaves when falling (in autumn) have a reddish-yellow color.

Flowering phase. The inflorescence is a compound raceme, with a varied number of axes, large – 20-25 cm, and, being a variable character, the insertion of the clusters is characterized by the V, VI and VII emergence nodes. The flower is the generative organ constituted by type 5. The corolla opens in the form of a star. The floral bud is globose, of medium size. The stamens are located at the level of the stigma, are straight, with normal fall. The position of the anthers is perpendicular to the filament. The pistil is 2.5 mm with the green, pear-shaped bilocular ovary of about 1.5 mm, with intense orange nectariferous glands. The style is filiform and of long type. The stigma is bifid type. The nectariferous glands are intense orange in color. From a morphological point of view, the flowers are normal with fertile pollen. During flowering, the pollen has an elongated shape with germination of about 90%. The flowers are bisexual. Distant indigenous hybrids usually bloom at the end of May.

Grape ripening phase. The grapes are cylindrical-conical, multi-winged, characteristic of table varieties, with the Chasselos ripening period (August 16-31) and appear on the fruit strings immediately after the detachment of the 3rd, 4th and 5th leaves. The size of the grapes is large – 300-450 g, with a length of 20-25 cm and a lignified peduncle.

Berry growth phase. Berry development begins with their growth in volume, followed by intense growth of the embryo in the seed and, subsequently, by a maximum intensity of resumption of growth in volume. The shape of the berry is cylindrical, small in size, about 10.0 mm, with an average diameter of about 12.0 mm. The skin is yellow-pink, opaque. The plum is dense in intensity. The pulp is of a crispy consistency. The must is yellowish, aromatic. The pedicel is of a long type with rare lenticels. The brush is with average separation from the berry. The seed is of a conical type, being larger in size compared to the Eurasian species

V. vinifera L. and smaller in size than the American species *V. rotundifolia* Michx., after extraction from the berry it is brown in color, two in each berry.

Agrobiological characteristic. The active vegetation period is medium with an average temperature of – 7-8°C. The flowering and ripening of the grapes are of medium type. The ripening of the grapes is normal. The growth is vigorous.

Economic use and characterization. They are used for domestic and international consumption.

They withstand storage and transportation. They are recommended for use as table grapes.

The phenotypic characters involved in the study – buds, shoots, roots, leaves, inflorescences, berries, seeds, etc. – through their development and behavior in environmental conditions, with the influence of biotic and abiotic factors, are individually specific, and the common characters – the high resistance of buds, shoots, leaves, roots, etc. to extreme temperature factors, diseases and pests.

Polymorphism being treated as a descriptive trait, but also as a criterion of genetic differentiation, as well as comparisons between the structures of the studied hybrids and those from other genera in the Vitaceae family, signal common elements, and this comparative aspect supports the hypothesis of the origin of the transmitted characters of the indigenous distant hybrids from the parental forms. Thus, the application of ampelographic terminology facilitates the exact identification of the indigenous distant hybrids and their comparison between genotypes.

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