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Romanian tomatoes obtained from INCDBH Ştefăneşti-Arges

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Abstract Lately consumer demands quality vegetables, especially tomatoes experienced a pronounced orientation towards sensory seeking and appreciating as much taste and aroma of red even at the expense of the commercial aspect of the fruit perfectly. The varieties presented in this paper were obtained from INCDBH Ştefăneşti Arges, after repeated research papers in several years and have been approved in 2013. The paper presents two tomato varieties with unlimited growth, respectively 22 and Costs 21 varieties Stefanesti tomato INCDBH approved to have been a revival of vegetable research in the area, which were discontinued for a period of over 20 years and vegetable sector been missing for 8 years. Tomatoes can be eaten in a variety of ways: fresh, as simple salad or mixed with other vegetables, or cooked in soups, pot, sauces, stuffed tomatoes, industrially processed form of paste, canned broth, juice regular or spicy. Tomatoes have high nutritional value due to fruit content in vitamins, minerals, sugars, organic acids and amino acids.

Key words

new variety, physiologically ripe, tomatoes, resistance to transport

Climate change out of the way agriculture. Vegetables and cereals suffer from drought, and large temperature differences. Therefore, researchers are trying to obtain new varieties of tomatoes, peppers and cucumbers to withstand our fields sunburned [3]. Meanwhile, Israeli farmers received from tomato seeds that have adapted to our climate difficult, but the taste is not the same as tomatoes many years ago [1].

The tomato fruit is consumed physiological maturity, and those that do not reach that stage (green tomatoes) for the preparation of pickles [5,6]. The importance of tomatoes is given special food that they consume a wide range ie fresh as simple salad or mixed with other vegetables, sauces, pot, tomatoes filled with different compositions etc., prepared industrially as paste, broth, canned, regular or spicy juices etc.[2,7]. The provisions of the World Food and Agriculture Organization (FAO) recommends consumption of vegetables in varying amounts depending on the age of consumers up to 12 - 100 g / day, over 12 years - 350 g / day, the annual consumption reaching 120 kg vegetables [4].

Material and Method

The varieties were obtained from INCDBH Ştefăneşti by self-pollination F_1 and F_2 hybrids of the plants obtained verification productivity was achieved for several years. By visual analysis over the years 2009-2011 were identified four biotypes of tomatoes which have the advantage of cultural and deserved to be studied to apply DUS test: distinctness, uniformity and stability varietal genetic lineage. The first stage of the test was run in all 4 biotypes are distinct from the plants from which they originated.

The two biotypes studied indeterminate growth, large fruit, which looks pleasant shopping. The biotype ribbed fruit characters still segregated (2010) but there was a very large fruit plant with an average of 294 g / fruit and has been studied. It continued verification productivity and stability through the maintenance characters positive F_2 to biotypes obtained (figure1).

Fig. 1 - Culture of tomatoes, new varieties

Seed harvesting followed the representative biotypes (selected) for DUS testing by ISTIS in 2010;

Tomato crop was established on experimental variants: plants of F_1, F_2 plants, plants from F_3 to identify segregation agronomic characters and characters biotypes intercomparable of results with those of the witness in F_1. There followed another year of study to verify the stability and uniformity of genes.

Results and Discussions

Brief description of varieties: **Tomato Variety Ştefăneşti 22** (figure 2)

Morphological characters: anthocyanin coloration of hypocotyl of seedlings stage is present and has medium intensity. Type of plant growth is determined. Leaf is medium length, width is narrow to medium and language is pinnate division. Pubescens style and color of the flower is absent flower is yellow. Abscisic area of the stem is absent. The fruit is very large and the height / diameter is medium. Fruit shape in longitudinal section is rectangular. Costar the stem area is average.

Pericarp is thick and number of seminal lodges in equal proportion is three and four. Fruit does not show green cap and green color intensity before maturity, is yellowish light. The color of the fruit, harvest maturity, vivid red and red seminal cavity environment. The fruit is firm.

Physiologically: the early flowering and maturity early harvest is late to very late.

Destination: fruit intended for fresh consumption [8].

Fig. 2 - Variety Ştefăneşti 22 - Fruits and fruit section

In table 1 are given security features and expressions expressed by notes made by the body approved varieties (ISTIS Bucharest).

Table 1

Variety denomination Ştefăneşti 22

No. crt.	No. CPVO	Characteristics	States of Expression	Note
1.	2 G	Plant: growth type	indeterminate	2
2.	10 G	Leaf: type of blade	Bipinnate	2
3.	21 G	Fruit: green shoulder (before maturity)	Absent	1
4.	26 G	Fruit: size	very large	9
5.	28 G	Fruit: shape in longitudinal section	Flattened	1
6.	36 G	Fruit: number of locules	more than six	5
7.	37 G	Fruit: colour at maturity	Red	5
8.	43 G	Resistance to Melodogyne incognita	Resistant	3
9.	44 G	Resistance to Verticillium sp. (Va and Vd) Race 0	Absent	1
10.	45 G	Resistance to Fusarium oxysporum f. sp. lycopersici	Absent	1

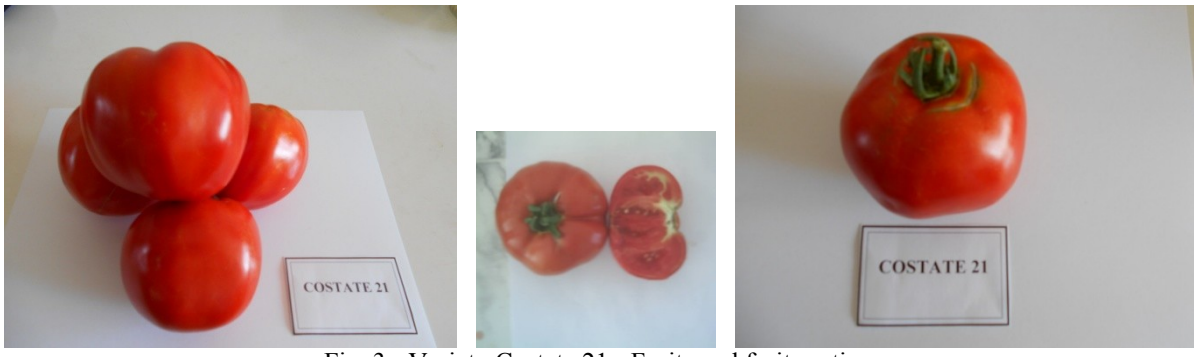

Fig. 3 - Variety Costate 21 - Fruits and fruit section

Tomato Variety Costa 21 (figure 3)
Morphological characters: anthocyanin coloration of hypocotyl of seedlings stage is present and has medium intensity. Type of plant growth is determined. The leaf is long and wide. The division of the leaf is bipennated. Pubescent style and color of the flower is absent flower is yellow. Abscisic area of the stem is absent. The fruit is very large and the height / diameter is medium. Fruit shape in longitudinal section is rectangular. Costar the stem area is medium to strong.
Pericarp is thick and number of seminal lodges in equal proportion is three and four. Fruit does not show green cap and green color intensity is open.
The color of the fruit, harvest maturity, vivid red and seminal cavity is moderately red. The fruit is firm. *Physiologically*: the early flowering and maturity early harvest is late.
Destination: fruit intended for fresh consumption [8].
In table 2 are given security features and expressions expressed by notes made by the body approved varieties (ISTIS Bucharest).

Table 2

Variety denomination Costate 21

No. crt.	No. CPVO	Characteristics	States of Expression	Note
1.	2 G	Plant: growth type	indeterminate	2
2.	10 G	Leaf: type of blade	Bipinnate	2
3.	21 G	Fruit: green shoulder (before maturity)	Absent	1
4.	26 G	Fruit: size	very large	9
5.	28 G	Fruit: shape in longitudinal section	Flattened	1
6.	36 G	Fruit: number of locules	more than six	5
7.	37 G	Fruit: colour at maturity	Red	5
8.	43 G	Resistance to Melodogyne incognita	highly resistant	3
9.	44 G	Resistance to Verticillium sp. (Va and Vd) Race 0	Absent	1
10.	45 G	Resistance to Fusarium oxysporum f. sp. lycopersici	Present	9

Fig. 4 - Plant of Ştefăneşti 22


Fig. 5 - Plants of Costa 21

Biometric measurements consisted in determining the average height of plant, number of inflorescences per plant, number of fruits per inflorescence average, average size and average weight of fruit.
Variety cultural Ştefăneşti 22 (figure 4) has the following characteristics:

- Increase indefinitely;
- Inflorescence average 5-6 fruits deep red skin color;
- Fruit large and flattened;
- Average fruit weight is 218.3 grams;
- Average diameter, measured at the middle of the fruit, 76.5 mm;
- Height (length) of 66.8 mm average fruit. - Ştefăneşti 22 approved in 2013 which was patented (Patent No. variety of plants. 00346 of 30/08/2013)

Variety has the following features cultural Costate 21 (figure 5):

- Increase indefinitely;
- Inflorescence average 5-6 fruits deep red skin color;
- Fruit large, flattened and costs;
- Average fruit weight is 294.3 grams;
- Average diameter, measured at the middle of the fruit, 112.4 mm;
- Height (length) of 72.6 mm average fruit.

Costate 21 approved in 2013, which was patented (Patent No. variety of plants. 00344 of 30/08/2013)

Conclusions

1. New varieties of tomatoes obtained from Ştefăneşti are recommended for introduction in culture in Romania, Romanian origin genetic value.
2. Varieties resistant tomato fruit transport and storage.
3. Fruits are sweet taste and aroma specific varieties of tomatoes in old Romanian.
4. Varieties characteristics postmaturation - picked ripe fruits reach commercial maturity (red color and sweet taste) without defects.

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