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SITUAȚIA NOILOR PLANTAȚII POMICOLE ÎN DOBROGEA
THE SITUATION OF NEW ORCHARDS IN DOBROGEA

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Abstract

The fruit-growing sector in our country has experienced an upward trend with the support of European funding in the field. In the south eastern region of the country, intensive and super-intensive orchards have been established with various fruit species. A significant contribution to the expansion of cultivated areas with fruit trees comes from RSFG Constanța, which provides farmers with new cultivars of different fruit species and planting material of the *Certified* biological category. Annual actions for training farmers and promoting newly developed or acclimatized cultivars in the area have contributed to the development of orchards in the region.

Cuvinte cheie: pomi fructiferi, arbuști, suprafețe, categorie biologică.
Key words: fruit trees, shrubs, surfaces, biological category.

1. Introduction

The orchard sector in Dobrogea has seen significant growth, supported by European funds and the adoption of intensive and super-intensive planting methods. These plantations integrate advanced technologies like drip irrigation or trellis systems for better yield and quality.

One major challenge for Dobrogea's orchard industry, however, is the region's dry climate, which requires efficient irrigation systems and careful cultivars selection to mitigate the effects of water scarcity and spring fluctuating temperatures. RSFG Constanța has a vital role by providing acclimated cultivars and training farmers in sustainable practices (Dumitru, 2009; Septar et al., 2018).

2. Material and methods

The study focused on analysing the following aspects: new orchard plantations in Constanța and Tulcea based on statistical data provided by the Agricultural Directorates of each counties; the status of orchard plantations established through Submeasure 4.1.a, *"Investments in Fruit-growing Farms"*, according to technical projects approved by RSFG Constanța between 2016 - 2024; and, within the SCDP Constanța nursery, the production of Certified planting stock from new fruit trees cultivars adapted to regional conditions which can be used for orchard establishment.

3. Results and discussions

The climatic conditions

A distinctive feature of the climate in Dobrogea is the frequent occurrence of drought, resulting from the lowest levels of atmospheric precipitation in Romania. The frequency of droughts increases from the cold season toward the warm season, with higher values recorded during the April-September period. he annual average air temperatures in Dobrogea vary within a narrow range. The highest values, exceeding 12°C, are recorded along the coastal strip, in a narrower area in Central Dobrogea and a wider zone in Southern Dobrogea and the Danube Delta. The lowest annual average temperatures, below 10°C, are found in the mountainous region in the northwest of Dobrogea. These thermal differences, influenced by the temperate-continental annual climate regime, reflect the differing heat balances of the two major components of the active surface: the marine area (Black Sea) and the terrestrial expanse. This dual influence leads to a more moderated climate near the coast and harsher conditions inland and in elevated areas.

Regarding atmospheric precipitations, the territory of Dobrogea is divided from north to south by the 400 mm isohyet, which separates the coastal area from the continental zone. To the east of this line, the average annual precipitation ranges between 350-400 mm, while to the west of it, the range is 400-450 mm (Păltinanu et al., 2015).

The distribution of atmospheric precipitation in Dobrogea is characterized by marked variability, particularly during the warm period of the year (April to October). The tendency for drought expansion has been observed in south eastern and southern regions of Romania (including Dobrogea). As a result, most

crops in these areas require irrigation to ensure high-quality yields. This variability and tendency toward drought highlight the importance of efficient water management, especially for agriculture in the region.

The relative humidity in Dobrogea exhibits a clear seasonal pattern. During the cold months of the year from November to March, the average monthly relative humidity exceeds 80%. In contrast, during the warm months (April to October), the relative humidity tends to range between 70% and 80%.

The situation of new fruit plantations in Constanța county between 2014 and 2023 compared to the period 2010-2013

Between 2014 and 2023, compared to the period from 2010 to 2013, the area of fruit orchards in Constanta decreased due to the deforestation of orchards that had surpassed their productive lifespan. However, since 2014, there has been a growing trend in the establishment of new orchards (Fig. 1). This indicates a shift towards modernizing and expanding the fruit-growing sector, likely influenced by European Union agricultural support and increasing demand for high-quality fruit production.

Between 2014 and 2023, the area of new fruit orchards established in Constanța County was 394.0 hectares (Fig. 2). This development reflects a broader trend in Romania, particularly in regions like Dobrogea, where new orchard planting has increased following the replacement of older, unproductive orchards.

Between 2014-2023, the structure by species of fruit plantations established in Constanța County was emphasised in figures 3 and 4. Between 2014 and 2023, the area planted with nut species (such as walnut, almond, and hazelnut) increased in Constanța County. Additionally, between 2014 and 2019, and again in 2023, there was a noticeable trend of expansion in the area planted with stone fruit species (such as peach, cherry, apricot, and plum). These changes reflect growing interest in diversifying fruit production in the region, with particular attention to varieties that are well-suited to the local climate and have strong market demand. Of the total newly established fruit plantations, nut species account for 84%, while stone fruits represent 11%.

During the period 2015-2024, a number of 41 projects for the establishment of fruit plantations through sub-measure 4.1.a 'Investments in fruit-growing farms' were approved by SCDP Constanța.

The situation of new fruit orchards in Tulcea county between 2014 and 2023, compared to the period from 2010 to 2013

Between 2014 and 2023, the area of fruit orchards decreased due to the deforestation of orchards that exceeded their exploitation duration (Fig. 5). In 2023, compared to 2022, a slight increase in the areas with new fruit plantations was observed (Fig. 5). The growth of new orchards in Tulcea reflects a broader regional trend, where farmers are investing in more modern, efficient farming methods. This trend is expected to continue in the coming years as climate-appropriate fruit tree cultivars and improved culture practices. It is observed that between 2014-2015, compared to the period 2010-2013, the structure of fruit species in orchards remained constant. However, starting in 2016, orchard owners began opting for walnut plantations, a species that had not been planted in the region between 2010-2015. Additionally, during this period, there was an increase in the area planted with species such as cherry, sour cherry, and peach (Fig. 6). Also, a number of 16 projects for establishing fruit plantations in Tulcea through submeasure 4.1.a were approved by RSFG Constanța in the period 2016-2024.

The planting fruit-trees stock at RSFG Constanța nursery between 2016-2023

The high biological value of the fruit planting material and its health, especially the absence of viral diseases, that are essential for establishing orchards and subsequently obtaining high-quality yields (Coman et al, 2022).

RSFG Constanta has registered cultivars of apricot (16), peach and nectarine (24), almond (2) and rootstock (10). Between 2016 and 2023, an average of 25,000 trees per year were produced. Of the total trees, the Certified category accounts for 75% (apricot, peach, nectarine, almond, cherry, and plum) (Fig. 7). During this period, 60 cultivars were grafted from the Certified biological category, of which 46 varieties are Romanian (Fig. 8).

4. Conclusions

Most fruit species cultivated in Romania find optimal growing conditions in Dobrogea, provided that irrigation is ensured.

Sub-measure 4.1.a 'Investments in fruit-growing holdings' had a positive impact on expanding fruit-growing areas in intensive and super-intensive systems, rejuvenating orchards, and changing the assortment of fruit varieties.

The certified fruit planting material (apricot, peach, nectarine, and almond) produced by the Constanța Research Station for Fruit Growing (RSFG) was used to establish new orchards in Dobrogea and other areas of the country.

The areas cultivated with fruit species are showing a growth trend, and we hope to revitalize fruit growing in Dobrogea so that the varieties and technologies developed at SCDP Constanța can be utilized by a large number of beneficiaries.

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Figures

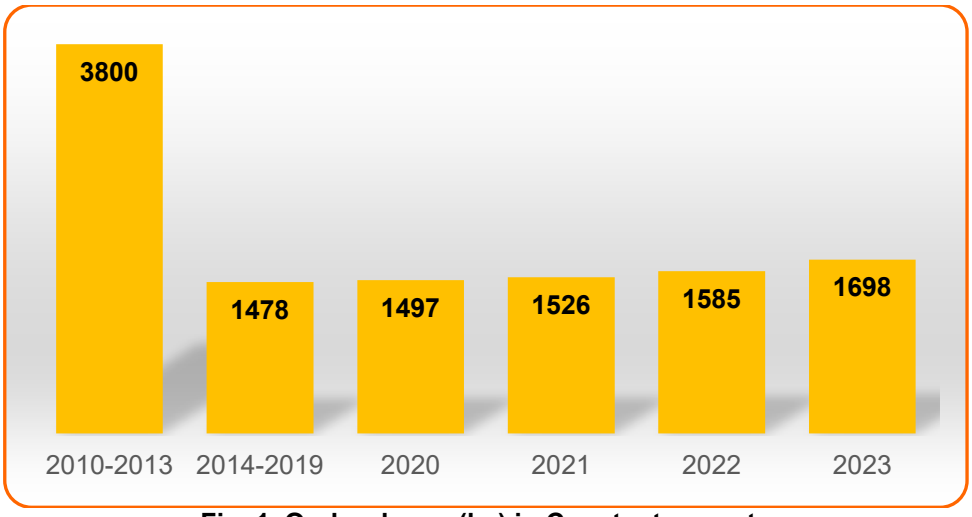

Fig. 1. Orchard area (ha) in Constanța county

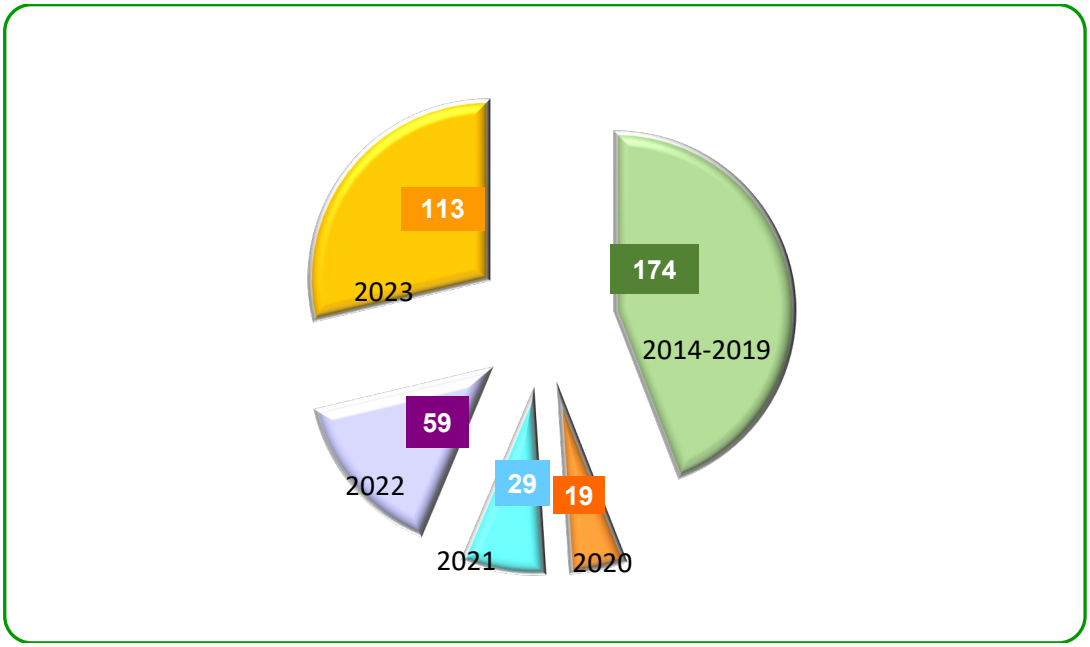

Fig. 2. The area of new orchard plantations (ha) in Constanta county

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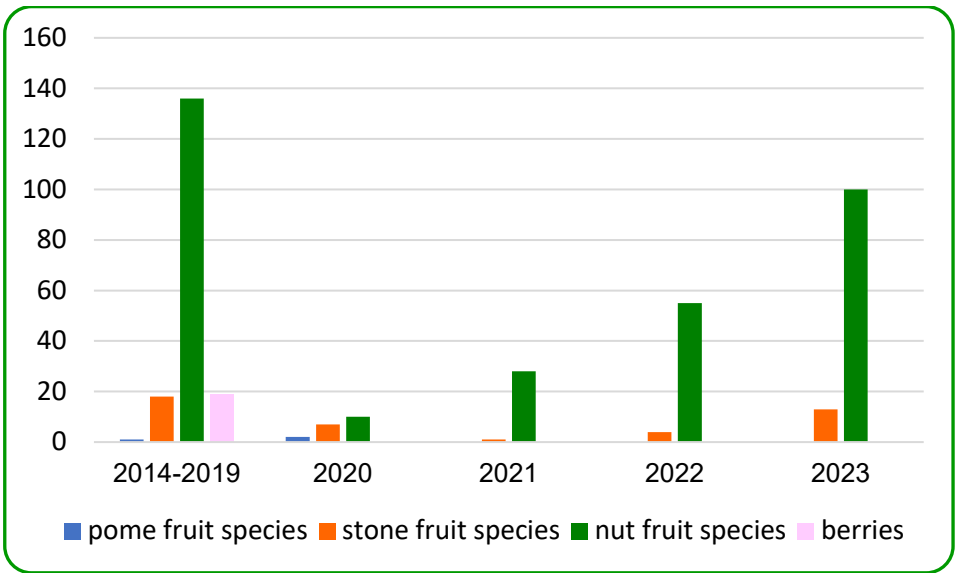

Fig. 3. Orchard area (ha) in Constanța county

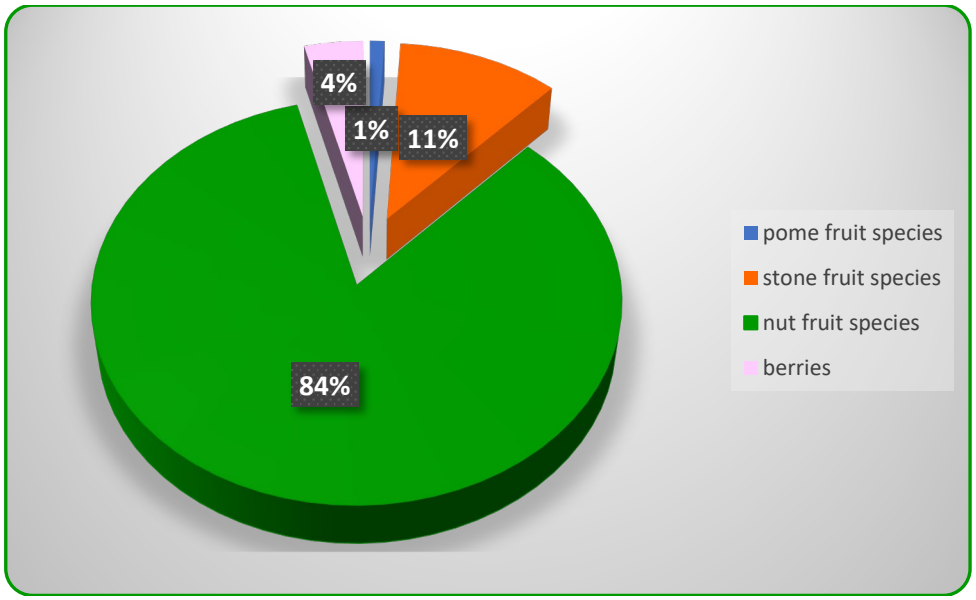

Fig. 4. The distribution of fruit tree species (%) between 2014-2023, Constanța county

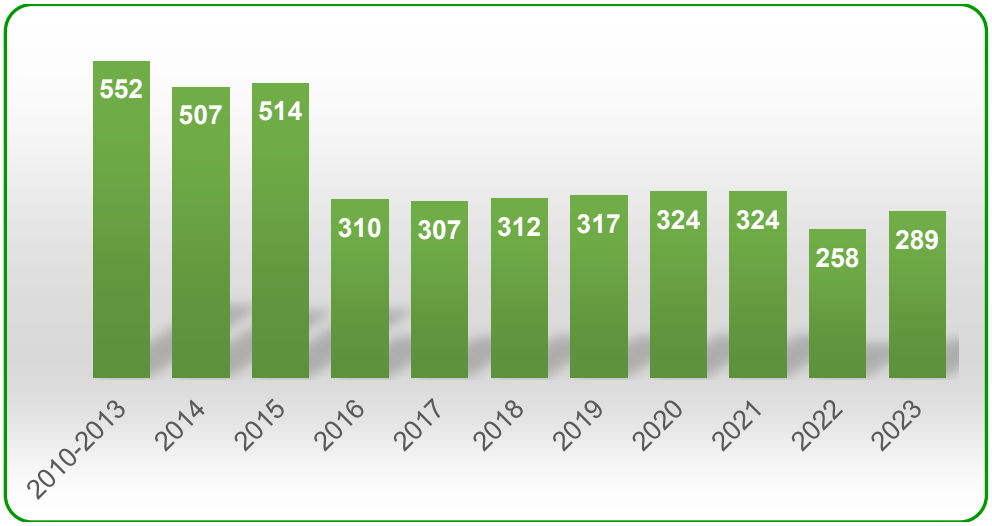

Fig. 5. Orchard area (ha) in Tulcea county

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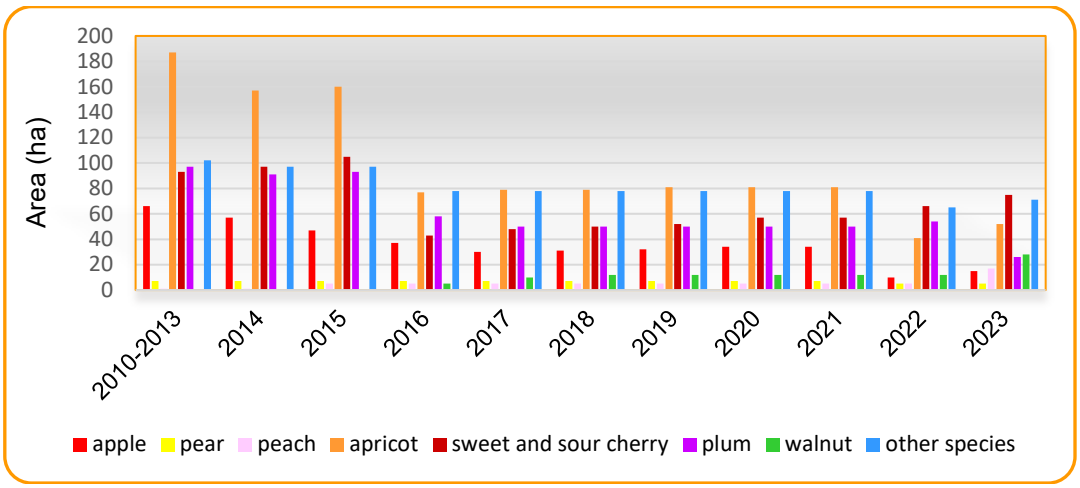

Fig. 6. New fruit orchards in Tulcea county

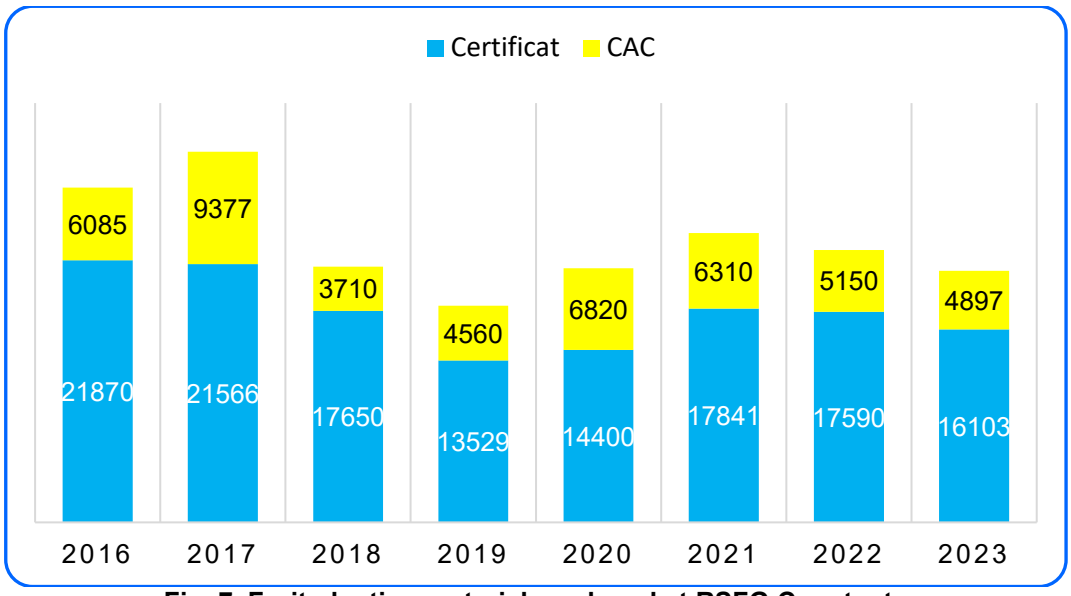

Fig. 7. Fruit planting material produced at RSFG Constanța

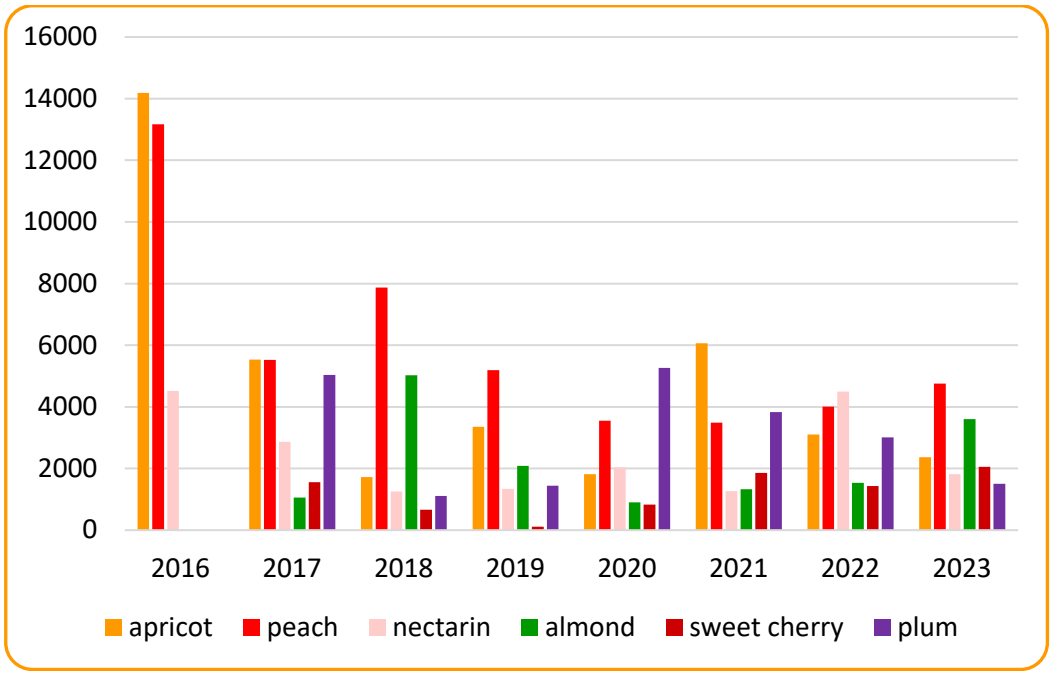

Fig. 8. Number of fruit trees by species – Certificate planting material