

# THE ECOLOGICAL FAVOURABILITY OF OLTENIA MICRO AREAS TO SUPPLY THE COMPETITIVITY OF FRUITS GROWING PRODUCTS

## FAVORABILITATEA ECOLOGICĂ A MICROZONELOR DIN OLTENIA, ÎN SPRIJINUL COMPETITIVITĂȚII PRODUSELOR POMICOLE

**BOTU I.<sup>1</sup>, BOTU M.<sup>2</sup>, SILVIA PREDĂ<sup>1</sup>  
ACHIM GH.<sup>2</sup>, ANDREEA GIORGOTA<sup>1</sup>**

Research and Development Station for Fruit Tree Growing Vâlcea,  
<sup>2</sup>University of Craiova

**Abstract.** *To make an area and especially to make a micro area of the pomiculture represents complex concepts which define the favourability degree of an area for a structure of species and cultivars and which is reflected in the productivity, the fruit quality, adaptability and the ratability of the pomiculture plant.*

*The activity of making areas of the pomiculture plants in our country is from ancient times. This aspect is evident in the South Carpathian area where were been sat almost all the pomiculture plants on largest areas.*

*The first attempts to make areas of the pomiculture were done by: Rădulescu D. (1922), Ștefănescu D. (1912, 1920, 1924), Georgian R. (1934), Botez M. (1938), Bordeianu T. (1943, 1944), Costetchi M. (1934), etc.*

*In 1950 showed up the first scientific and complex paper work regarding the process of making areas known as: "The pomiculture areas of Romania.", under the prestige of the professors Constantinescu N., Bordeianu T., Sonea V. and Ioniță C, which has 11 pomiculture areas. After that Constantinescu N. and Teaci D., in 1955, enlarged the pomiculture areas at 13 areas. In conformity with this division of Oltenia was framed in the I – st. pomiculture region (the hills area) and 10 th region (plains area).*

The Oltenia region includes an relative large area (over 25 thousands Km<sup>2</sup>) and has different types of relief with exposition, altitudes differentiated soil types and which gave a ecological specify, for many existent micro areas. Here are cultivated over 15 % from the total of Romania fruit growing plants.

To evaluate the productivity potential of a micro area or its availability for the culture of the fruit growing plants was bas'ed on the paper works that we said to be the first in this domain and where we add the scientific works of De Groot (1998), Avermaete ș.a.(1998), Botu (1999), etc.

The final aim of this paper work is to put in value of these Oltenia micro areas which are capable to favourable evaluate some pomiculture plants cultivars although the food and economical values of these to determinate a real competition with the fruits from others countries.

## MATERIAL AND METHODS

The biological material used in the work paper is formed of the cultivars studied in different places of this area; some of them were promoted in different ranges (Vâlcea, Gorj, Dolj, Olt, etc.).

The base fruit growing unit, which corresponds of one pomiculture micro area, with its specify elements was considered "The fruit growing basin".

The fruit growing basin (fruit growing micro area) is characterized with a special size (some places), disposed many of the time in hydrographical basin with specify relief, soil and climate conditions.

To characterize each micro area was used the method proposed by Mihai Botu (1999) and which included the following elements:

- the geographical factor (locating in the country, region);
- the orographic factor of the micro area;
- the climate factors (temperature, rain, air movements, climate accidents);
- the edaphic factor (the soil type, natural fertility, texture, pH, etc.);
- the biological factors (the species structure, cultivars and rootstocks);
- the historical tradition;
- the socio-economical factors of the micro area and of the region;
- the availability of land fund;
- the capital and available infrastructure;
- the professional factors and the insurance of the work;
- the distribution network and the delivery market;
- the quality of the product, the availability of the marketing;
- the government politics and of the region, etc.

On the base of this multiple parameters were define the fruit growing micro areas of Oltenia, with the specify characteristics and was outline a map with the position of those.

## RESULTS AND DISCUSSIONS

The geographic region Oltenia was divided in 7 fruit growing basins, in fact fruit growing micro areas. In comparison with the old divisions in fruit growing regions (two), Oltenia includes areas comprised in established micro areas, and also areas which don't belong to the fruit growing micro areas.

The seven established micro areas are:

1. The fruit growing basin Rm Vâlcea ( North Oltenia);
2. The fruit growing basin Horezu (North Oltenia);
3. The fruit growing basin Tg. Jiu- Câmpu Mare (North Oltenia);
4. The fruit growing basin Turnu Severin- Baia de Aramă (West Oltenia);
5. The fruit growing basin Drăgășani- Bălcești (Central Oltenia);
6. The fruit growing basin Craiova Hills (Central Oltenia);
7. The fruit growing basin Bistreț- Corabia (South Oltenia).

The geographic Oltenia was divided in 4 micro areas which belong to the SubCarpatian hills, two from the hills – central area and one from the plain area.

The micro – areas from the hills area include the biggest cultivated areas with fruit growing plants. The division of micro area has the scope to grow the

economical efficiency of the fruit growing cultures and to obtain good quality fruits.

It is not enough to ascertain that in Oltenia can be cultivated almost all fruit growing plants (trees and bushes), these have to be with economical efficiency and food value.

Those micro areas are specialised in plum and apple culture, but also present some specific culture elements. In Rm. Vâlcea basin are recommended for the future species like: walnut, chestnut and hazelnut, and in Horezu basin walnut, hazelnut and strawberry.

For Tg. Jiu – Campu Mare, walnut, chestnut and quince are cultivated and present view for the future. The fruit growing basin Tr. Severin – Baia de Aramă presents optimal conditions for walnut, hazelnut and cherry tree.

The fruit growing basins from the hills area allow some small and middle farms development (5-30 ha), rarely more because of the orography of the land and because of the soils quality.

The advantage of these basins is that ensure a superior quality of the fruits, with the conditions of respecting the technology. The fruits present a high colour, high density of the pulp and a good taste.

The basins from the hills region of Oltenia (Drăgășani – Bălcești and Craiova Hills), are specialized on the apple and plum culture. The ecological culture from here favours other cultures as: peach, apricot, strawberry, cherry, walnut and hazelnut if the soil humidity is enough. With irrigation could be realised fruit growing farms of 10-15 ha.

A special situation it is found in Bistreț – Corabia Fruit Growing Basin.

This region is stretch along the Danube River and includes sandy soils of 55-60 % percentage.

That is a fruit growing micro area relatively new which offers conditions for peach and apricot cultures and also for others species.(cherry and plum).

The fruit growing cultures from this area needs irrigation and a strong fertility especially on the sand.

The advantage of these cultures consists in the fact that the fruit maturity of the same cultivar is produced with 5-12 days before of its homologue from other region of the country. This advantage permits the obtaining of high delivery prices in comparison with other fruits.

To divide the fruit growing micro areas of Oltenia impose the using of the ecological factors to establish some structures of species and especially of the assortment of cultivated cultivars.

At each fruit growing species were tried and evaluated many cultivars. The recommended cultivars for the micro area are optimal for the micro climate, realized big productions and very good quality fruits. Fruits obtained in these conditions are competitive on Romania markets or from the foreign countries and that way assure the necessary economical founds for a normal rural development.

Table 1.

## The general characterisation of fruit growing micro areas of Oltenia

Fruit growing basin or micro area	Negative characteristics	Positive characteristics
- Rm. Vâlcea	<ul style="list-style-type: none"> <li>- good choice of the areas with fruit growing destination;</li> <li>- good orography;</li> <li>- low productive cultivars without river meadow cultivars;</li> </ul>	<ul style="list-style-type: none"> <li>- are cultivate almost any species for temperate climate;</li> <li>- the intense colour of the fruit and high density of the pulp;</li> </ul>
- Horezu	<ul style="list-style-type: none"> <li>- good choice of the areas with fruit growing destination;</li> <li>- good orography;</li> <li>- heavy lands on the slope;</li> <li>- negative temperature at flowering;</li> </ul>	<ul style="list-style-type: none"> <li>- vocation for plum, apple, chestnut, cherry, strawberry;</li> <li>- the intense colour of the fruit and high density of the pulp;</li> </ul>
- Tg. Jiu – Câmpu Mare	<ul style="list-style-type: none"> <li>- not all the soils are properly for fruit growing;</li> <li>- wet soils, clay;</li> <li>- low winter temperature(-30°C).</li> </ul>	<ul style="list-style-type: none"> <li>- are cultivate almost any species for temperate climate;</li> <li>- quality fruits at apple, plum, quince, chestnut;</li> </ul>
- Tr. Severin – Baia de Aramă	<ul style="list-style-type: none"> <li>-Very different soil conditions;</li> <li>- good orography;</li> </ul>	<ul style="list-style-type: none"> <li>- favourable area because of the Mediterranean climate;</li> <li>- the intense colour of the fruits;</li> </ul>
- Drăgășani – Bălcești	<ul style="list-style-type: none"> <li>- Lack of enough humidity of air and soil;</li> <li>- minimum temperature - 30°C.</li> </ul>	<ul style="list-style-type: none"> <li>- vocation for plum, apple, apricot, peach;</li> <li>- quality fruits at plum;</li> </ul>
- Craiova Hills	<ul style="list-style-type: none"> <li>- Lack of enough humidity of air and soil;</li> <li>- frequent minimum temperature of: -30 : -35°C.</li> </ul>	<ul style="list-style-type: none"> <li>- are fruit growing apples, plums, pears, cherries, apricots, peaches;</li> <li>- quality fruits with irrigation conditions;</li> </ul>
- Bistreț - Corabia	<ul style="list-style-type: none"> <li>- not enough humidity;</li> <li>- High temperatures in the summer;</li> <li>- Sandy soils low fertile;</li> </ul>	<ul style="list-style-type: none"> <li>- favourable for apricot, peach, cherry, plum;</li> <li>-the maturation of the fruits with 5-12 days earlier than in other Oltenia basins or in the country..</li> </ul>

Table 2

Fruit growing basin or micro area	Important fruit growing centres	Important fruit growing species and cultivars and in perspective
<b>- Rm. Vâlcea</b>	Rm. Vâlcea, Călimanești, Dăești, Bujoreni, Olănești, Păușești-Măglași, Vlădești, Mihăești, Govora, Bunești, Galicea, Olanu, Milcoiu, Stoiceni, Frâncești, Șirineasa.	Apple - Florina, Generos, Idared, Ionagold, Jonathan, Starkrimson, Goldenspur, Granny Smith, Liberty, etc. Plum - Stanley, Andreea, Anna Spath, Centenar, Agen 707, Tuleu gras. Walnut - Jupânești, Valrex, Valcor, Valmit, Hartley, Vîna. Hazelnut - TGD, Romavel, Valcea 22, etc.
<b>- Horezu</b>	Stoenești, Pietrari, Păușești-Otăsău, Tomșani, Costești, Horezu, Vaideeni, Măldărești, Oteșani, Popești, Cernișoara, Roiești, Grădiștea, etc.	Plum - Tuleu gras, Agen 707, Stanley, Anna Spath, , Carpatin, Andreea, etc. Apple - Florina, Generos, Ionagold, Jonathan, Golden delicious, Idared, etc. Strawberry - Premial, Coral, Gorella, Red Gauntlet, Senga Sengana, etc.
<b>- Tg. Jiu – Câmpu Mare</b>	Tismana, Călnic, Perișani, Bârsești, Câmpu Mare, Scoarța, Bălănești, Novaci, Polovragi, Bengești, Baia de Fier, Prigonia, Tg Cărbunești, etc.	Apple - Florina, Generos, Golden delicious, Starkrimson, Idared, etc. Plum - Stanley, Centenar, Tuleu Gras, Anna Spath, Minerva, etc. Quince- Bereczki, Aromate, Aurii, De Constantinopol, etc.
<b>- Tr. Severin - Baia de Aramă</b>	Baia de Aramă, Cireșu, Ilovăț, Podeni, Șovarna, Corcova, Strehaia, Tîmna, Greci, Rogova, Hinova, Căzănești, etc.	Apple - Florina, Generos, Ionagold, Starkrimson Golden Delicious, etc. Plum - Stanley, Tuleu Gras, Agen 707, Centenar, Anna Spath, etc. Sour cherry - Oblacinska, Nana, Mocănești, etc.
<b>- Drăgășani – Bălcești</b>	Drăgășani, Câmpu Mare, Otești, Strejești, Ștefănești, Mădulari, Pesceana, Crețeni, Amărăști, Măciuca, Fărtățești, Tetoiu, Iancu Jianu, etc.	Apple - Golden delicious, Starkrimson, Ionagold, Florina, Idared, etc. Plum - Agen 707, Anna Spath, Tuleu gras, Stanley, etc. Apricot- Dacia, Mamaia, Sulina, Olimp, etc.;
<b>- Craiova Hills</b>	Banu Mărăcine, Motoci, Robănești, Terpezița, Breasta, Podari, Plenița, Vârtop, Radovan etc.	Apple - Golden delicious, Starkrimson, Florina, Generos, Jonathan, etc. Cherry -Germesdorf, Rivian, Van, Stella, Boambe de Cotnari, etc. Strawberry -Premial, Red Gaunthet, Coral, Gorella, etc.
<b>- Bistreț - Corabia</b>	Bistreț, Ghidici, Cârna, Tâmburești, Daneți, Dolnești, Sadova, Lișteava, Bechet, Amărăști, Dăbuleni, Patelu, Călărași, Corabia, etc.	Peach - Springcrest, Springgold, Crimsongold, Rommamer 2, Fantasia, Flacăra, Superbă de toamnă, etc. Apricot - Cea Mai Bună de Ungaria, Dacia, Mamaia, Sulina, Venus, Olimp, Litoral, etc.

## CONCLUSIONS

- The Oltenia region assures many ecological conditions and for that it was divided in 7 fruit growing micro areas with specific characteristics Rm. Vâlcea, Horezu, Tg. Jiu – Câmpu Mare, Tr. Severin – Baia de Aramă, Drăgășani – Bălcești, Craiova Hills and Bistreț – Corabia);
- The fruit growing micro areas assure a developing of the pomiculture based on a special structure of species and of assortments of valorous cultivars;
- The fruit growing micro areas placed in high hills area are specific for apple, plum, walnut, cherry, sour cherry, quince, strawberry, etc., cultures and the micro areas situate in the hills area need irrigation to complete the deficit of water. In these micro areas are: apples, plums, cherries, sour cherries, apricots, etc.;
- The Bistreț – Corabia Basin is different from others because of the high temperatures, deficit of the rains, sandy soils. In this fruit growing basin apricot, cherry and plum find good, favorable culture conditions, in irrigation conditions;
- The fruit quality from the hill micro areas it is remarkable because of the high colour, high density of the pulp and a good taste. The fruit from Bistreț – Corabia Basin have an early maturation with 5-12 days before in other areas of the country.

## REFERENCES

1. **Avermaete U.**, 1998 - *Global Horticultural Impact: Fruits and Vegetables in Development Countris*, Acta horticulturae nr 495, Roma, Italia.
2. **Botu M.**, 1999 - *Cercetări privind stabilirea unor genotipuri și soiuri valoroase de prun pentru zona subcarpatică a Olteniei*, Teză de doctorat, Universitatea din Craiova.
3. **Botu I, Botu M.**, 2003 - *Pomicultura modernă și durabilă*, Edit. Conphys, Rm. Vâlcea.
4. **Constantinescu N., Sonea V., Bordeianu T., Ioniță C.**, 1995 - *Regiunile pomicole ale R.P.R. cu premisele pentru dezvoltarea în perspectivă a pomiculturii*, Edit. Academiei, R.P.R. București.
5. **Mihescu Gr.**, 1998 - *Pomicultura ecologică, tehnologii nepoluante*, Edit. CERES, București