STUDIES REGARDING THE BIODIVERSITY OF ORNAMENTAL PLANTS IN SOUTH-EASTERN ROMANIA

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INTRODUCTION

- The ornamental plants department within our Fruit Research Station, in South-eastern Romania has more than 250 arrangements of both deciduous and evergreen species, which are growing in open land. Most of these are still unique to our region, such as: *Jasminum nudiflorum, Viburnum burkwoodii, Spiraea prunifolia 'Flore plena', and Ziziphus jujuba* or there are endemic species as *Paliurus Spina Christi*.

- Between, 1996-2006 we observed and studied many of these species, regarding their capacity to adaptation from within and outside the zone, to climate change, soil conditions, decorative detail of foliage and fruit etc.

- This kind of protracted study makes it possible for us to recommend particular species of deciduous and evergreen plants for multiplication throughout the green spaces of Constanta and other parts of the country.

MATERIALS AND METHODS

Over time studies were carried out upon certain ornamental plants that practically were the variants of the species. The following aspects were observed and analyzed:

- The phenological stages, especially the early growth and development.
- The intensity and duration of the early blossoming. The blooming intensity was recorded with 0 (without flowers) to 5 (very abundance flowers).
- The decorative value of each particular species.
- Their frost and drought resistance capabilities.
- Their resistance to the main pests and diseases.
- The impact of the plants flowering and fruiting in different seasons.

The average temperature during the years was 10.7 centigrade. The annual rainfall measurement of 403.1 mm.

RESULTS

- *Jasminum nudiflorum* and *Forsytia x intermedia* start their decorative stage at the beginning of February through to the first week in March respectively. Due to the early blossoming of its intense yellow flowers and long duration of the decor *Forsytia x intermedia* is an especially valuable species for spring and winter landscaping (Table 1).
- *Cydonia japonica* is also a remarkable plant for bedding purposes given the bright orange colour of its flowers and the very fragrant fruits that are maintained on this plant until late autumn.
- During April *Viburnum burkwoodii*, *Malus floribunda*, *and Amygdalus scoparis*, comes into bloom and are highly decorative through the variety of their flowers, fruit and leaves. They remain so throughout the whole of the spring and summer seasons.
- In May and June of the respective years studied the ornamental plants called, *Pyracantha coccinea, Spiraea prunifolia* 'Flore Plena', *Potentilla fruticosa* have a decorating flower span of about three weeks.
- At the end of June and the beginning of July other species such as *Buddleia davidii*, *Punica granatum* and *Albizzia julibrisim* start to blossom fourth and last for approximately two and a half months.
- Despite the severity of the winter months some species like the *Viburnum burkwoodii, Phyracantha crenatosserata, Ziziphus jujuba, Yucca filamentosa* maintain and retain their rich decorative value due to their evergreen leaves and red or orange fruits (Table 2).
- From table 1 the frost resistance of the studied plants can be observed. Most of the aforementioned plants responded well to winter conditions, although some of them displayed actual frost damage and had to be covered and protected. These included the *Punica granatum, Buddleia davidii, Wagelia florida.*

The limited data of our research is presented in the following table:

Table 1, Valu lui Traian, 1996-2006

SPECIES/VARIETIES	Frost resistance	Décor time of the flowers																							Blooming intensity
		February		March			April			May			June			July			August			September			
		II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	
JASMINUM NUDIFLORUM	5																								5
FORSYTIA INTERMEDIA	5																								5
CYDONIA JAPONICA	5																								5
VINCA MINOR	3																								3
MALUS FLORIBUNDA	5																								5
VIBURNUM BURKWOODII	5																								5
AMYGDALUS SCOPARIA	4																								5
HYPPOPHAE RHAMNOIDES	5																								5
TAMARIX x TETRANDRA	5																								5
POTENTILLA FRUTICOSA	4																								5
PYRACANTHA COCCINEA	5																								5
SPIRAEA PRUNIFOLIA 'FLORE PLENA'	5																								4
ELEAGNUS ANGUSTIFOLIA	5																								4
PHILADELPHUS CORONARIUS	5																								4
COTINUS SCOPARIUS	5																								5
DEUTZIA GRACILIS	5																								4
HYPERICUM PATULUM	3																								4
ZIZIPHUS JUJUBA	5																								5
PALIURUS SPINA CHRISTI	5																								5
PUNICA GRANATUM	2																								4
BUDDLEIA DAVIDII	2																								4
ALBIZZIA JUBRISSIN	3																								5
YUCCA FILAMENTOSA	5																								5
ROSA RUGOSA	5																								5

Legend:

Frost resistance

5 – extremely hardy

4 – hardy

3 – moderate

2 – tender

1 – extremely tender

Table 2.

SPECIES/VARIETIES	Decorative elements				Destination			
	Flower	Fruit	Leaf	Branch	Insolated	Combinated	Group	Hedge
JASMINUM NUDIFLORUM								
CYDONIA JAPONICA								
FORSYTIA INTERMEDIA								
VINCA MINOR								
MALUS FLORIBUNDA								
VIBURNUM BURKWOODII								
HYPPOPHAE RHAMNOIDES								
TAMARIX x TETRANDRA								
POTENTILLA FRUTICOSA								
PYRACANTHA COCCINEA								
SPIRAEA PRUNIFOLIA 'FLORE PLENA'								
ELEAGNUS ANGUSTIFOLIA								
AMYGDALUS SCOPARIA								
PHILADELPHUS CORONARIUS								
COTINUS SCOPARIUS								
DEUTZIA GRACILIS								
HYPERICUM PATULUM								
ZIZIPHUS JUJUBA								
PALIURUS SPINA CHRISTI								
PUNICA GRANATUM								
BUDDLEIA DAVIDII								
ALBIZZIA JUBRISSIN								
YUCCA FILAMENTOSA								
ROSA RUGOSA								


Cydonia japonica


Amygdalus scoparius

Malus floribunda


Tamarix tetrandra

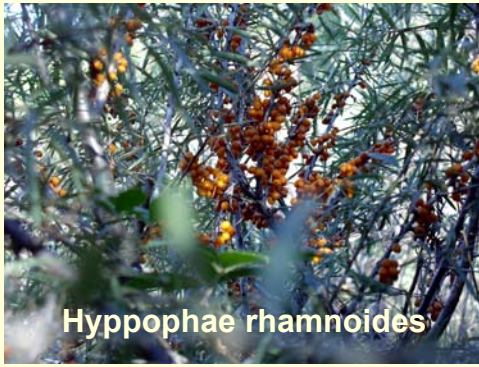

Potentilla fruticosa


Vinca minor


Spiraea prunifolia ‘Flore Plena’


Pyracantha coccinea


Punica granatum


Hyppophae rhamnoides


Cotinus scoparius


Ziziphus jujuba

CONCLUSIONS

- Our Fruit Research Station in South-eastern Romania has concluded that there is a large assortment of ornamental plants and variant species most suitable for landscaping throughout South Romania.

- That these aforementioned plants can be used for landscaping either independently or in a combined combination throughout the entire year.

- That the majority of these species despite their different decorative value of buds, shoots, leaves, flowers, fruit and habitus, are resistant to the negative climate conditions of frost, drought and wind.

- That the decorative value of each studied species is accurate to more or less than a few days depending on the climate of the respective year.