PRELIMINARY RESEARCH CONCERNING THE ADAPTATIVE CAPACITY AND GROWTH FOR DIFFERENT NATIVE AND NON-NATIVE WILLOWS IN THE WESTERN PLAIN OF ROMANIA

Corneanu Mihaela [1] Hernea Cornelia[1], Netoiu Constantin[2] , Sarac Ioan[1] Poșta Daniela Sabina[1]

[1] Banat`s University of Agricultural Sciences and Veterinary Medicine "Regele Mihai I al Romaniei" from Timisoara, Romania
[2] Research and Development Forest Research Institute "Marin Drăcea", Bucuresti, Craiova Station

INTRODUCTION

One of the most abundant renewable source of energy is biomass. Short rotation coppice (SRC) wilow represent one of the most adaptable crop for biomass production. Willow is a fast-growing perennial plant with a remarkable capacity of vegetative regeneration, very high sprouting capacity, high productivity, short rotation cycle, broad genetic base which allow an easy breeding and low economic investments after its establishment . But nor only biomass is important in SRC but also phytoremediation, nature conservation and landscape improvment.

MATERIAL AND METHODS

In 2015, a collection of willows genitors was established in SDE Timisoara, Romania (Table 1). The field was prepared for planting and 38 native population and 14 hybrids from Romania (7) and Sweden (7) were planted in double rows (1.4m between double rows, 0.7m between rows, 0.7m between.

Table 1. Genitors collection (living gene bank) of Salix sp

No	Location	Genitor
1	*Pojejena, CS county*	*Salix fragilis*
2		*Salix fragilis*
3		*Salix purpurea*
4		*Salix pentandra*
5		*Salix purpurea*
6	Waste dump Tausani Moldova Noua	*Salix purpurea*
7	Waste dunp Sasca, CS county	*Salix incana*
8		*Salix hastata*
9		*Salix rosmarinifolia*
10		*Salix rosmarinifolia*
11	Agadici old nursery, CS county	*Salix fragilis*
12		*Sallic daphnoides*
13		*Sallic daphnoides*
14		*Salix incana*
15		*Salix cinerea*
16	Lisava, Forest Department, CS county	*Salix purpurea*
17		*Salix alba*
18		*Salic caprea*
19		*Salix fragilis*
20	ICPA STation	*Salix alba*
21	Pocruia Sura	*Salix fragilis*
22	Diculesti	*Salix alba*
23	Sohodol	*Salix alba*
24	Pocruia Prun	*Salix fragilis*
25	Bobicesti no . 232	*Salix alba*
26	Bobicesti nursery	*Salix fragilis*
27	Bibicesti nursery	*Salix fragilis*
28		*Salix purpurea*
29	Bobicesti Agricol land	*Salix babylonica*
30	Waste dump Pesteana	*Salix pentandra*
31		*Salix triandra*
32	Old waste dump Farcăsesti	*Salix fragilis*
33	New waste dunp Farcasesti	*Salix alba*
34		*Salix pentandra*
35	Negomir (road)	*Salix alba*
36	Waste dump Pinoasa	*Salix fragilis*
37		*Salix fragilis*
38	Fratilescu Pocruia	*Salix purpurea*
39	Hungary nursery, Swedish hybrid	Inger
40		Jorr
41		Olof
42		Tora
43		Tordis
44		Torhild
45		Sven
46	ICAS Tulcea nursery, Romanian hybrids	892
47		1077
48		1082
49	Valcea nursery, Romanian hybrids	Cozia_1
50		Fragisal
51		Pesred
52		Robisal

RESULTS AND DISCUSSIONS

Results showed a high percent of survival for most of the genitors, except goat willow only few plants started in vegetation (Fig.1)
According with growth capacity, the best preliminary result was observed for two Swedish willow, Inger and Sven. We can also noticed some native population with good preliminary resultsS. Pentandra snd S. Triandra from Waste Dump Pesteana Nord. (Fig. 2)

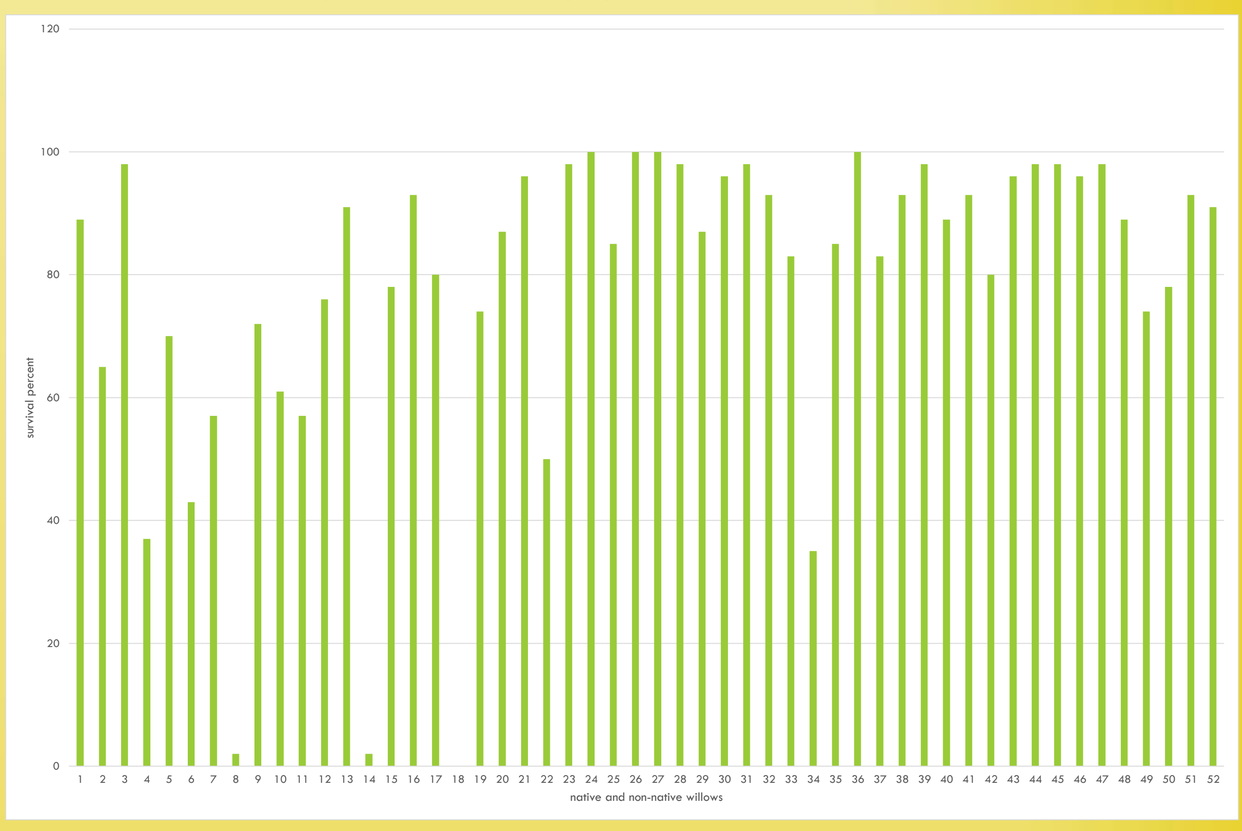

Fig. 1 Survival percent of native and non-native willows population from Genitors collection, SDE Timisoara

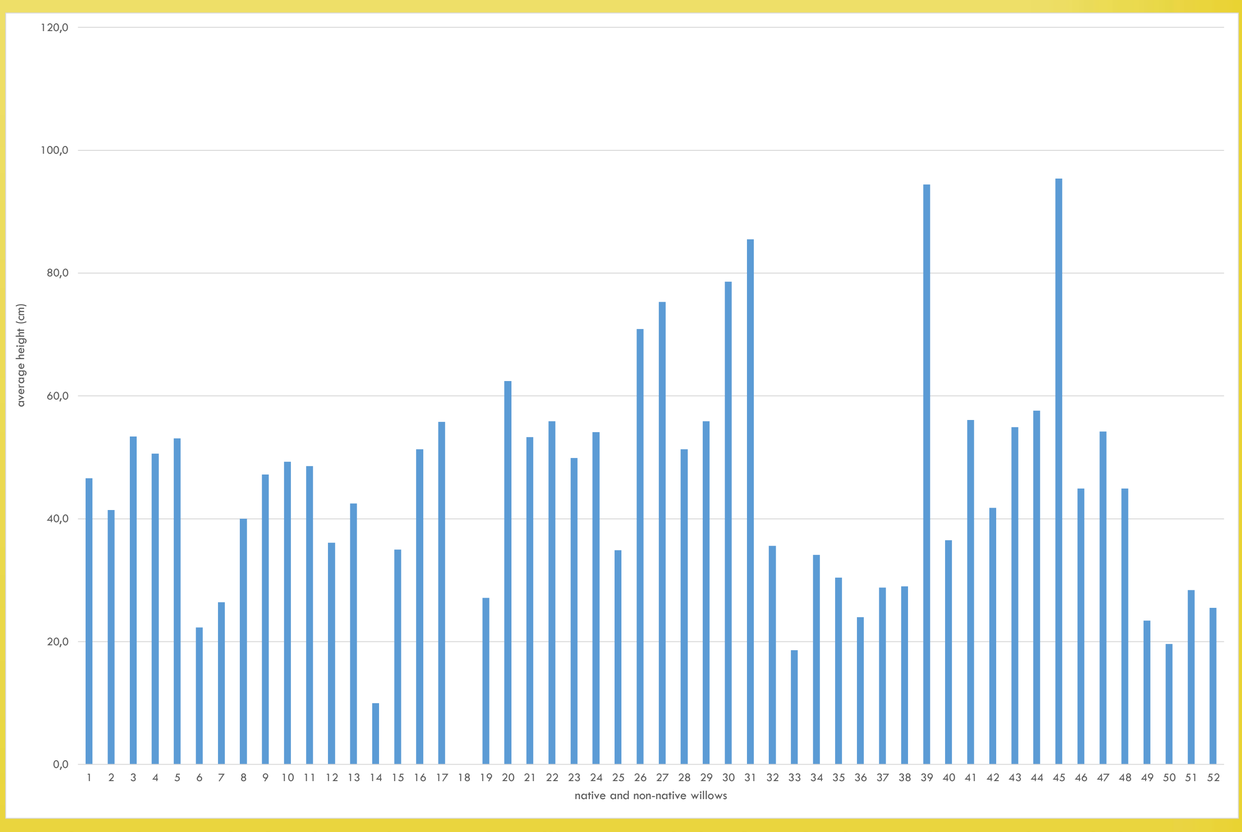

Fig. 2 Height growth of native and non-native willows population from Genitors collection, SDE Timisoarag

CONCLUSIONS

Results obtained in willows genotors collection established in Western Plane of Romania was good in terms of survival percent for many of genitors. The survival percent was higher than 85% for 22 genitors. Three of the genitors did not reach with sites and all or almost all the individuals died. In term of growth capacity we established some good genitors from native populations.
Research was established as a screening for future experiences according with the possibility of use native population and also different willow hybrids in our country site condition like energetic crop.

ACKNOWLEDGMENT

This paper was financially supported by MEN UEFISCDI, Programme PN II 2014- 2016, project no. 111/2014 SAROSWE.