

Comparative descriptive characteristics of four short rotation cycle poplar clones for bioenergy production
(operated by FSE Telenesti within the ENPI East FLEG II during 2014-2016)

Name	Origin / selection	Admission / Omologation	Growth performance			Wood	Vegetation	Resistance
			Diameter	Height	Volume			
Clone I-69/55 "Lux" (<i>Populus deltoides</i> Bartr. cv. "Lux" ex I-69/55)	Hybrid obtained in 1955 by Research Unit for Wood Production Outside Forests ¹ , Casale Monferrato, Italy	Romania, 1976; widely used in Shandong Province, China	7-year trees can reach an average of 22,4 cm	7-year trees can reach an average of 19,7 cm. In sites with high qualitative soil, annual growth is more than 2,5 cm	7-year tree can reach an average of 0,335 m ³	Soft, homogenous, mean density of 300 kg/m ³ . Cellulose 52%	Early It grows well in various habitats in Danube Delta; heavy winds, clay soils	Tolerant to floods ² (according to data from Romania, China)
Hybrid Clone I-45/51	Same location (Italia) as above, created in 1951	Romania, 1976	25-years trees can reach an average of 43,4cm	25-years trees can reach an average of 33,4m	25-year tree can perform 2,147m ³	Mean density 380 kg/m ³ . Cellulose 49%		Sensitive to some diseases (Cryptogamic agents ³)
Clone Sacrau-79 (<i>P. x euroamericana</i>)	Wettstein, Austria	Romania, 1972	21-year tree can reach on average 49,2m	21-year tree can reach on average 31,9m	21-year tree can perform 2,43 m ³	Mean density 333 kg/m ³ . Cellulose 49%		Moderate resistant to some diseases (Cryptogamic agents)
Clone Toropogritzki⁴ (<i>P. x canadensis</i>)	Nizhny-Dneprovsk, Ukraine	Admission for production in Romania, 1993	In Romania, lower Siret river 11-year trees performed on average 32,3 cm in diameter and 21,1 m in height; at 21-year reached on average 47,3m in diameter and 3,?2m.			Homogenous, relatively white, mean density of 267 kg/m ³ . Cellulose 52%		Very resistance to foliar disease and natural infections

¹ CRA Unità di Ricerca per le Produzioni Legnose Fuori Foresta (Previously Istituto di Sperimentazione per la Pioppicoltura)

² Ecophysiologically, in the beginning of flooding it showed high level of photosynthesis, a high free water content and water use efficiency at reduced leaf conductances and leaf water potentials (Kebing Du, Lin Xu, Hua Wu, Bingkun Tu, Bo Zheng; 2012).

³ These are leaf (and shoot tip) parasites: *Melampsora* (*M. alli-populina* Kleb. and *M. larici-populina* Kleb.), *Marssonina brunnea* (Ell. et Ev.) Magn.

⁴ The cone proved high preservation rate and a survival rate over 90% with a high resistance in Romania ("Poplars and willows culture and utilization during 2008 – 2011", Romania, Country Report. FAO, Bucharest, 2012)