Populus tremula – aspen and *Populus tremula x P. tremuloides* – hybrid aspen

The fast-growing Aspen (Populus tremula) are native and very adaptable in Central Europe. The hybrid aspen was formed by crossing the European aspen with the North American populus tremuloides. The tested clones are suitable for trunk wood production on forestry and agricultural sites.

The plant material

The usual seed potatoes available on the market of the
Aspen are seedlings with undefined properties. By the method of micropropagation approved clones from the breeding program of the NW-FVA are propagated vegetatively. Thus the tested good growth characteristics of the selected clones remain unchanged.

The clones were tested in field trials lasting several years at eight locations in the then Hessian forestry offices of Fritzlar, Gießen, Hünfeld, Königstein, Sinntal and Waldsolms and are significantly superior to the standard planted clone 'Tapiau 8'; in height growth performance of 10 to 30 % and in diameter growth of 15 to 84 %. In terms of volume performance, the superiority is even greater. The default rates were well below the standard (standard: 43 %, clones: 1. 3 - 27. 9 %). Some clones show clear resistance to poplar cancer. Aspen and hybrid aspen are recommended for cultivation in the forest or on plantations for rotation periods of 15 to 20 years.

Table 1: silvaSELECT-aspen and –hybrid aspen

Name	Art	Geschlecht	Weitere Informationen
Ahle 1	A	m	
Ahle 2	A	m	
Ahle 4	A	m	
Ahle 5	A	w	resistant to poplar cancer
Ahle 13	A	m	
Ahle 16	A	m	
Ahle 17	A	m	
Astria	H	w	triploid (3 n)
Münden 2	H	m	
Münden 6	H	m	resistant to poplar cancer
Münden 7	H	w	resistant to poplar cancer
Münden 11	H	w	
Münden 13	H	m	
Münden 16	H	m	resistant to poplar cancer
Münden 20	H	w	

A = aspe (*Populus tremula),* H = hybrid aspe (*Populus tremula* x *P. tremuloides*), m=male, w=female,

Advantages of selected aspens and hybrid aspens

In aspen/hybrid aspen, the growth performance of the trees plays a major role in the production of trunk wood. The results of the clone tests show that in vitro propagated aspen and hybrid aspen provide very good volume performance compared to seedlings. With Aspen at the age of 25, growth rates of 300 Vfm can be expected at medium sites.

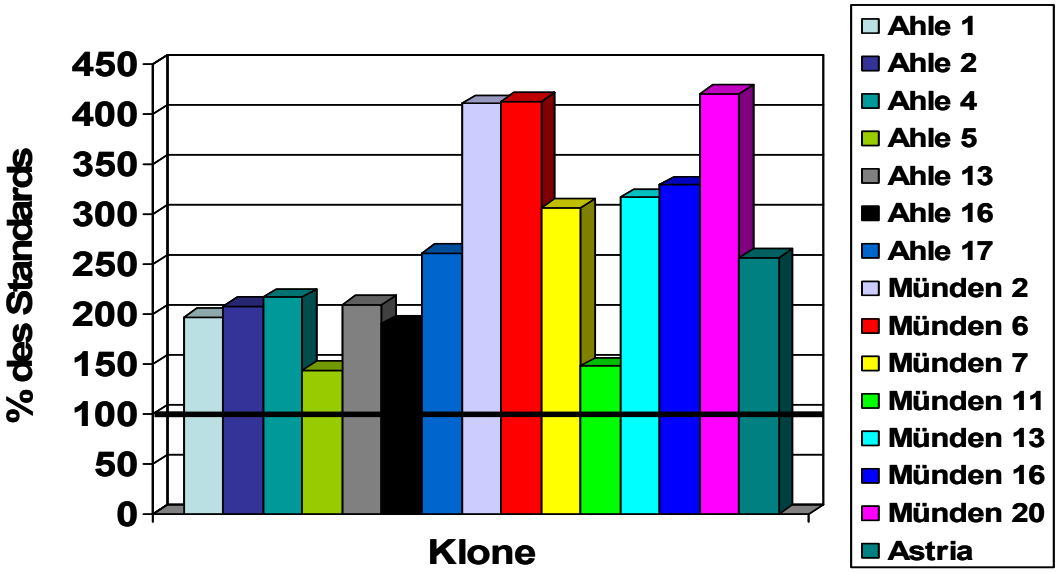

Abb. 1: Average lumber volume of 14 ;tested'; approved Aspen and hybrid aspens and the triploid variety `;Astria'; compared to the standard clone ´Tapiau 8'; (100 % = 0. 021 cbm) on 3 to 7 areas aged 11 - 15 years (Gebhardt et al. 2012).

Abb. 2: Habitus of Aspen (Populus tremula) at the age of 24 years (left) and habitus of a hybridasps of the same age (P. tremula x P. tremuloides; right) each on the area of Giessen (Gebhardt et al. 2012)

Qualities

The clone mixture consists of max. 7 aspen clones and max. 8 hybrid aspen clones (including the triploid variety´;Astria';). You can also order ranges of Aspen or hybrid aspen.

We inoculate all plants with symbiotic mycorrhizal fungi during the hardening phase in the greenhouse. This ensures rapid growth at the natural site.

Notes on silviculture

Cultivation can take place on agricultural or forestry sites which, with good growth performance, ensure that the target diameters are reliably achieved. Aspen and hybrid aspens have a fairly broad ecological spectrum. They can be successfully mounted from the planar step to the montane height step. Even on soils with an unfavourable nutrient supply, good growth rates can still be achieved, provided that the water supply is sufficient. Good growing results were achieved on fresh to moist, also on alternately moist and wet locations.
The recommended number of plants for the area foundation is (625) 1250 to 2500 plants/ha (plant bandage 2 x 2 to 2 x 4 m, max. 4 x 4 m). The plantation should be level with the ground. Planting in the final stand without silvicultural intervention is recommended.

In the forest, hollow spade or hole planting is carried out. After planting, fencing or individual protection with growth protectors makes sense. Aspen and hybrid aspen show good natural cleaning of the branches. Only small expenditures are necessary for the trunk wood care.

Notes on the FoVG

Aspen and hybrid aspen are subject to the FoVG, silvaSELECT aspen and hybrid aspen are approved as propagating material in the category „Tested"; (GP). A list of register numbers and master certificates shall be attached to the delivery documents. You will receive a clone mixture of at least 6 Aspen/Hybridaspen clones plus license fee.

Quelle: Gebhardt et al. 2012 - AFZ-Der Wald

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