

Results of annual and biannual willow clones shoot survival and browsing intensity in Western and Eastern region of Latvia

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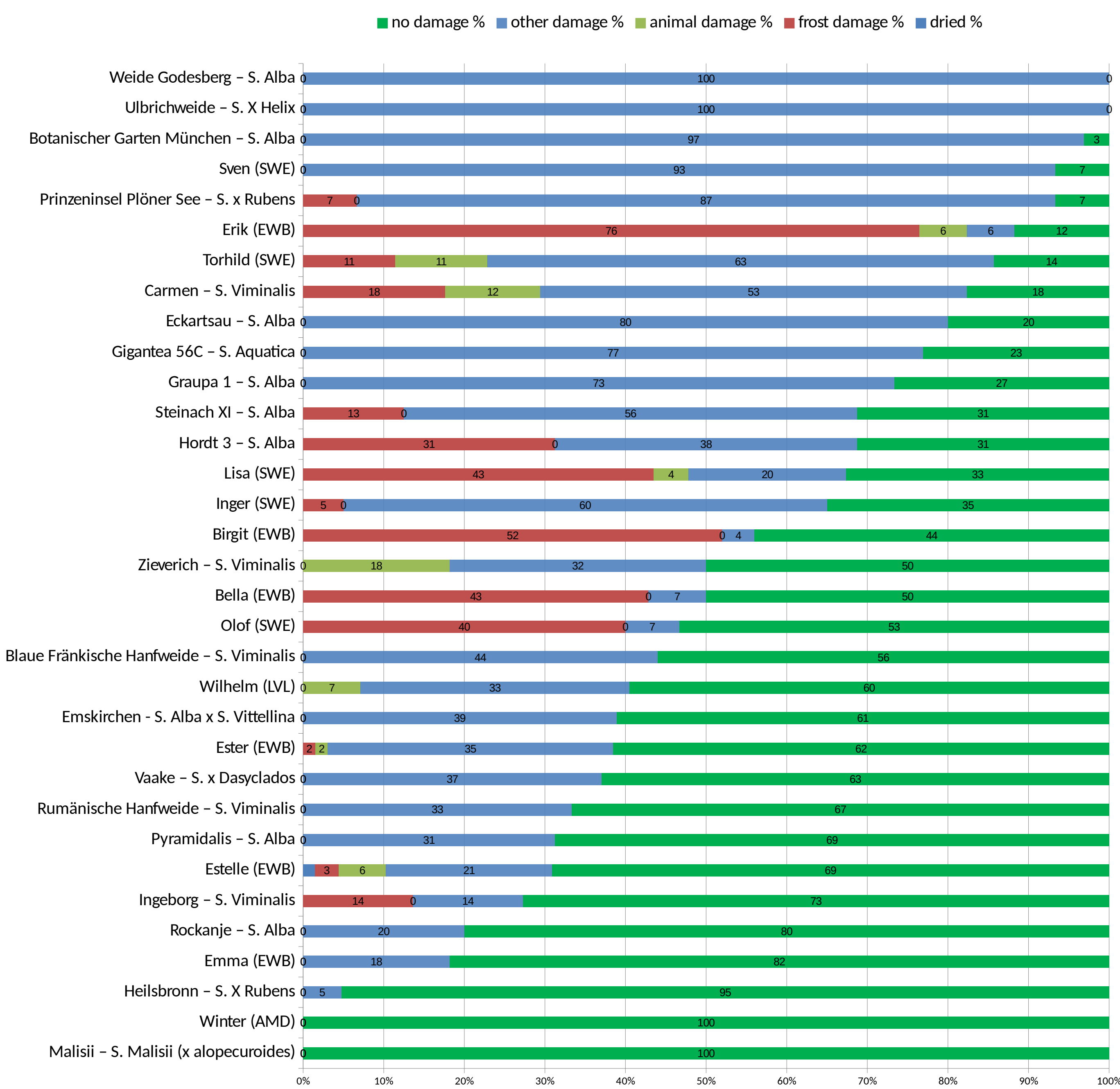
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Due to fast growth and ability to reach high yields clones and hybrids of *Salix* species are widely used in commercial short rotation coppices (SRC). Before introducing new clones on a large scale, preliminary tests and establishment of small-scale pilot plantations should be carried out to determine current clone suitability to local conditions. Species and clones that are both productive and resistant are selected for commercial use.

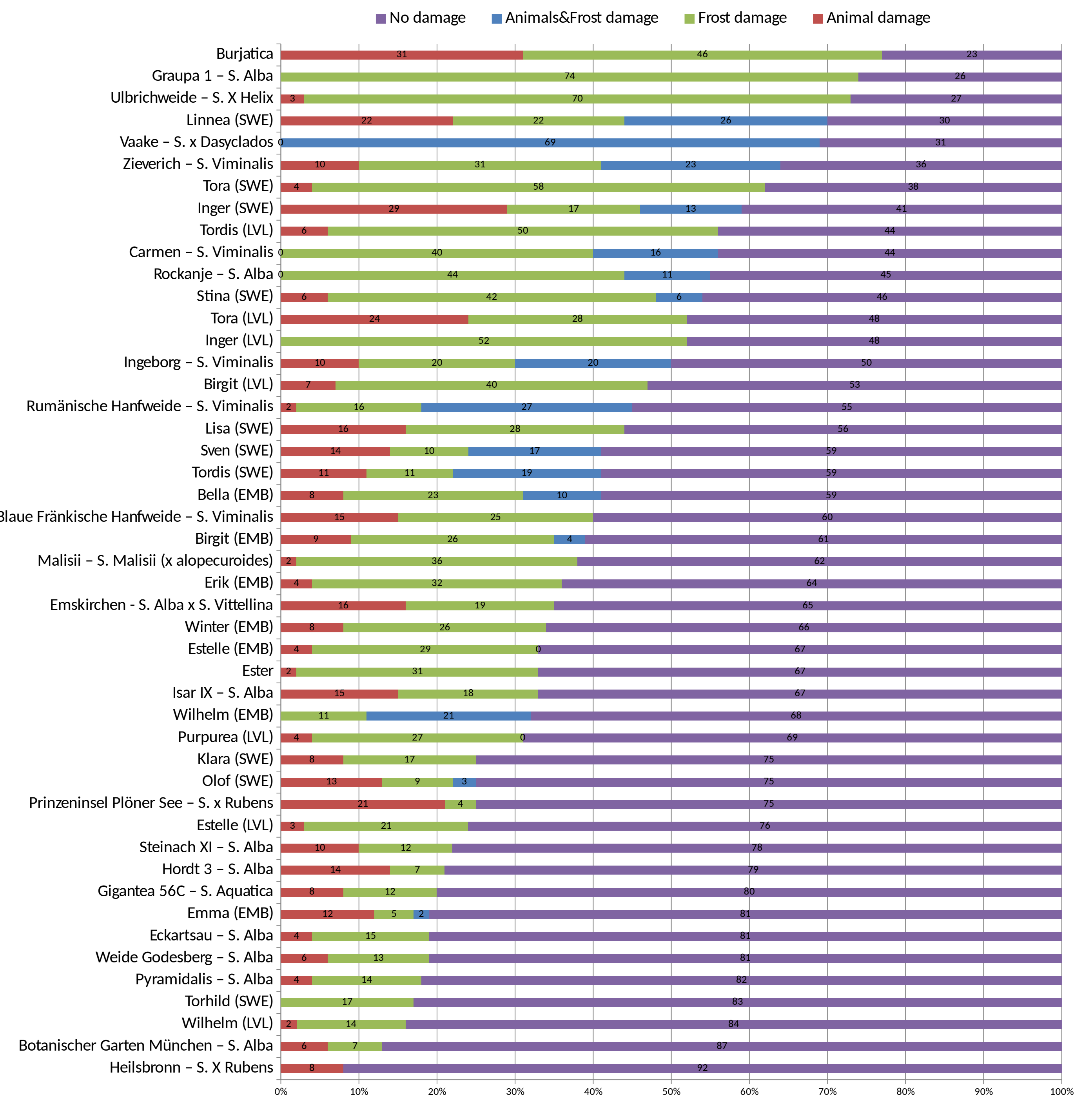


Willow plantations comprised of variety of species and clones were planted in May 2013 in two sites – a cropland (with low management activity) in western part of Latvia (56.700971, 21.717760) and a forest tree nursery (high management activity) in eastern part of Latvia (56.681427, 25.963326). Planting material of old (Olof, Sven, Torhild, Lisa, Stina, Tora, Klara, Inger, Tordis, Linnea) and new commercial clones (Estelle, Wilhelm, Birgit, Erik, Ester, Winter, Emma, Bella), as well as willows from Northwest German Forest Research Institute (“NW-FVA”), Hann Muenden, experimental fields (9 clones of *S. alba*, 5 clones of *S. viminalis*, 2 clones of *S. alba*, *S. alba* x *S. viminalis*, *S. malisii* (x *alopecuroides*), *S. x aquatica*, *S. x dasyclados*, *S. x helix*) and native *Salix* species (*S. viminalis*, *S. burjatica*, *S. purpurea*) were used to establish plantations. Clone resistance to winter frost was evaluated, and the number of browsed twigs was counted on both sites the first and the second year after plantation establishment.

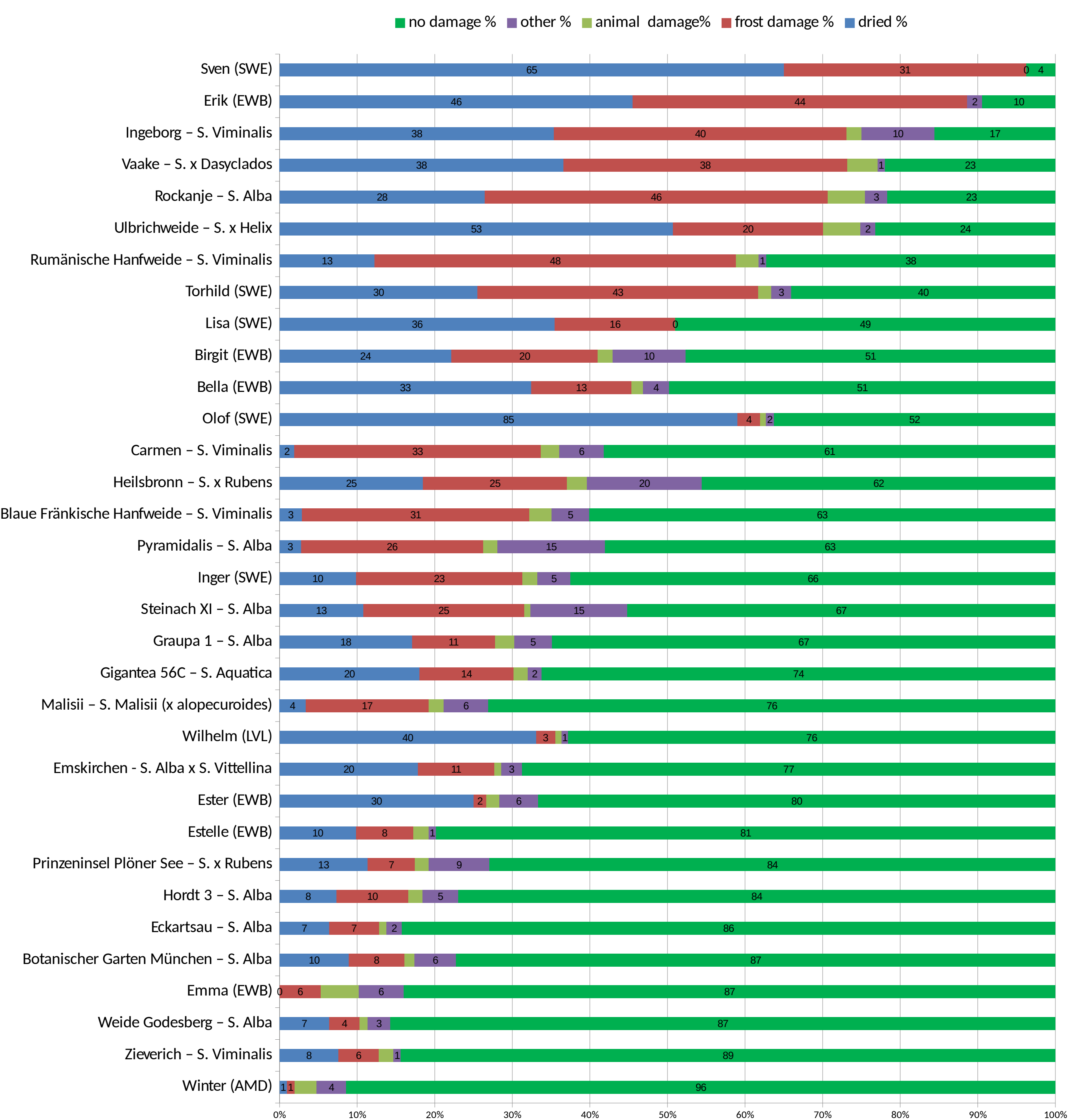
Frost and animal caused damages on *Salix* spp. sprouts in 1 year old stand at tree nursery



Frost and animal caused damages on *Salix* spp. sprouts in 2 years old stand



Frost and animal caused damages on *Salix* spp. sprouts in 1 year old stand



The most frost resistant clones were Winter, Emma, *S. alba* “Weide Godesberg” “Eckartsau”, *S. viminalis* “Zieverich” and Estelle, as well as the local planting material.

The most frost resistant clones from Germany were *S. viminalis* “Zieverich”, when planted in western part and *S. malisii* (x *alopecuroides*) “Malisii” when planted in eastern part of Latvia.

In eastern part of Latvia the highest amount of browsed twigs was observed in rows where *S. viminalis* “Zieverich”, “Karmen”, Torhild and Wilhelm clones were planted. In western part of Latvia clones *S. x rubens* “Heilsbronn”, *S. x dasyclados* “Vaake”, Emma, *S. x helix* “Ulbrichweide” and *S. alba* “Rockanje” were the most attractive to deers.



Conditions of production



Tree nursery