

Contribution of black alder to oriental beech on biomass increase

Sinan Güner^{1,*}, Aşkın Göktürk¹, Mehmet Küçük¹

¹ Artvin Çoruh University, Forest Faculty, 08000, Artvin, Türkiye

* Corresponding author: sinanguner@artvin.edu.tr

Abstract: Black alders enrich the poor soil with nitrogen by the bacteria in their roots. Because of these characteristics, alders might be evaluated as a natural fertilizer. In this study, it was investigated that whether or not there would be an important beech (*Fagus orientalis* Lipsky) while oriental contribution of black alder to development of oriental beech and black alder were grown together in afforestation sites. For this purpose, 15 sample plot of 200 m² were established in 2014. Arhavi is the country of Artvin which was located in the eastern Black Sea Region of Turkey. Five of the sample plots were planted with 2-year-old eastern beech, five with 1-year-old bearded alder, five mixed with 1-year old alder and 2-year old eastern beech. Seedlings were planted with 1m x 1m spacing distance. Biomass measurements were made on 30 seedlings representing each group prior to planting in 2014 and at the end of the vegetation period of 2015 and 2016. Within the scope of biomass measurements, fresh root weight (FRW), fresh body weight (FBW), fresh seedling weight (FSW), root dry weight (RDW), body dry weight (BDW) and seedling dry weight (SDW) values of seedlings were measured. In this study, according to the results obtained between 2014 and 2016, it was determined that beech grown with alder have more biomass.

Keywords: Red alder, Oriental beech, Seedling, Biomass