DROVER

Does Lower Drought Exposure Explain Overyielding in *Fagus sylvatica* - *Pinus sylvestris* mixtures across Europe?

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Context — Mixed-species stands are considered to provide many beneficial effects. They are on average more productive than pure stands. Overyielding (higher productivity in mixed than in pure stands) occurs more frequently on poor sites than on fertile sites and in low-growth years than in high growth years.

In mixed stands, tree species may have different ecological strategies and may show complementary in their resource uptake and use. Complementarity may lead to a lower inter-tree competition and, thus, to a higher tree and stand growth. The importance of resource complementarity for overyielding is presently not well understood.

In Europe, drought is presently one of the main factors limiting forest growth, and climate models usually predict a higher frequency of episodic or prolonged drought events in a near future. The DROVER project focuses on the comparative responses of mixed and pure stands to drought.

Objectives — Test whether, under water limiting conditions mixed stands show less limited soil water content than pure stands, and if overyielding is related to a reduced drought exposure in mixed stands

Approach — The study is based on a network of 36 study sites, established across Europe and fusing on *Fagus sylvatica* and *Pinus sylvestris*. Each study site contains a pure stand with each species, and a mixed stand. Wood cores were sampled to estimate tree annual radial growth and wood carbon isotopic composition (∂13C, an estimate of tree water constraint).

Key results — Not available

Main conclusions including key points of discussion — Not available

Future perspectives — Not available