

ESTABLISHMENT OF A SILVOPASTORAL EXPERIMENT IN LOWLAND IRELAND WITH RPM *QUERCUS* AND CATTLE

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Agroforestry is consistent with government policy in Ireland to increase the forest cover from 10% of the land area to 17%. Over 70% of farms in Ireland have cattle as a main enterprise. A silvopastoral experiment was established in 2002 in *Lolium* dominated research pasture using *Quercus robur* in an alley design using beef cattle for sward management. The experiment has five treatments with three replications in a randomised complete block design on 3.2 ha. Two treatments used trees produced especially with an enhanced root system (RPM). The treatments are: 1) control pasture plots, 2) RPM agroforestry, i.e. RPM produced trees planted at agroforestry spacings (400 stems ha⁻¹), 3) conventional agroforestry, i.e. bareroot trees at 400 stems ha⁻¹, 4) RPM forestry, i.e. RPM produced trees at forestry spacing (6600 stems ha⁻¹), and 5) conventional forestry, i.e. bareroot trees at forestry spacing.

The trees were successfully established and cattle were successfully managed in combination with the trees. We recorded cattle weights, sward development, tree growth, and floral and insect biodiversity.

Stem diameter increment of the bareroot trees during the second year was significantly greater than that of the RPM trees. There was no significant difference in stem diameter growth between the forestry and agroforestry treatments.

Height increment during the second year of the bareroot and the agroforestry treatments was significantly greater than that of the RPM and agroforestry treatments respectively.

There are no significant differences in height increment since establishment between the RPM and bareroot treatments or between the agroforestry and forestry treatments.