

The Jena Experiment: six years of data from a grassland biodiversity experiment

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Abstract. This data set contains species-specific biomass and cover data as well as community leaf area index (LAI) and height from a large grassland biodiversity experiment (Jena Experiment). In this experiment, 82 grassland plots of 20 × 20 m were established from a pool of 60 species belonging to four functional groups (grasses, legumes, and tall and small herbs). In May 2002, varying numbers of plant species were sown into the plots to create a gradient of plant species richness (1, 2, 4, 8, 16, and 60 species) and functional richness (1, 2, 3, and 4 functional groups). Plots were maintained by biannual weeding and mowing. The data set encompasses the 2002–2008 May and August biomass harvests from 3–4 subplots of 0.2 × 0.5 m per experimental plot sorted to species. Moreover, plant species and community cover estimated in an approximately 9-m² subplot per plot are included in the data set. Each biomass harvest was accompanied by measurements of vegetation height and LAI per plot. Analyses of the community biomass data have identified species richness as well as functional group composition as important drivers of a positive biodiversity–productivity relationship.

The data set can be used to study a variety of questions about how plant community composition and structure respond to changes in species richness and functional diversity over time. Sampling is ongoing, and new data will be added.

Key words: *biodiversity experiment; functional composition; height; LAI (leaf area index); plant community; species biomass; species cover.*

The complete data sets corresponding to abstracts published in the Data Papers section of the journal are published electronically in *Ecological Archives* at (<http://esapubs.org/archive>). (The accession number for each Data Paper is given directly beneath the title.)

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