

## SPECIES RESPONSES TO NITROGEN FERTILIZATION IN HERBACEOUS PLANT COMMUNITIES, AND ASSOCIATED SPECIES TRAITS

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**Abstract.** This synthetic data set contains plant species relative abundance measures from 35 nitrogen (N) fertilization experiments conducted at 10 sites across North America. The data set encompasses the fertilization responses of 575 taxa from 1159 experimental plots. The methodology varied among experiments, in particular with regard to the type and amount of N added, plot size, species composition measure (biomass harvest, pin count, or percent cover), additional experimental manipulations, and experimental duration. At each site, each species has been classified according to a number of easily identified categorical functional traits, including life history, life form, the number of cotyledons, height relative to the canopy, potential for clonal growth, and nativity to the United States. Additional data are available for many sites, indicated by references to publications and web sites. Analyses of these data have shown that N enrichment significantly alters community composition in ways that are predictable on the basis of plant functional traits as well as environmental context. This data set could be used to answer a variety of questions about how plant community composition and structure respond to environmental changes.

**Key words:** *database; fertilization; functional trait; nitrogen; plant community; synthesis.*

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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