Table 1

Summary table showing the prevalence of frequency-dependence between mutualist genotypes, using fitness data from an experiment pairing four genotypes of *Medicago truncatula* with two strains of *Sinorhizobium medicae* in ambient or elevated nitrogen (N) environments. The outcomes of 96 pairwise comparisons are shown, each between two plant populations and two rhizobium strains. Plant fitness was estimated as leaf number and fruit number; rhizobium fitness was estimated as nodule number (NN), mean nodule length (NL), mean nodule branches (NB), and total nodule volume (nodule number*length, TNV). A summary of outcomes is presented for each set of comparisons.

Consistent with the methods outlined in Bever (1999), four outcomes are possible for each comparison. Outcomes I, II, and III are expected ultimately to lead to fixation in both interacting partners. Outcome IV is consistent with selection that is expected to maintain genetic diversity in mutualist populations.

I: selection favors a single genotype in both partners
II: selection on one partner is frequency dependent, but not both
III: positive frequency-dependence in both partners
IV: negative frequency-dependence in both partners

Plant Populations Compared	N-Treatment	Plant Fitness Estimate	NN	NL	NB	TNV
4 vs. 6	C	Leaf Num.	I	I	I	I
4 vs. 6	N	Leaf Num.	I	I	I	I
4 vs. 9	C	Leaf Num.	I	I	I	II
4 vs. 9	N	Leaf Num.	III	II	II	III
4 vs. 10	C	Leaf Num.	II	I	II	II
4 vs. 10	N	Leaf Num.	I	I	I	I
6 vs. 9	C	Leaf Num.	II	II	II	III
6 vs. 9	N	Leaf Num.	II	I	I	II
6 vs. 10	C	Leaf Num.	III	II	II	III
6 vs. 10	N	Leaf Num.	I	I	I	I
9 vs. 10	C	Leaf Num.	II	I	II	I
9 vs. 10	N	Leaf Num.	III	II	II	III
4 vs. 6	C	Fruit Num.	II	II	II	II
4 vs. 6	N	Fruit Num.	II	II	II	II
4 vs. 9	C	Fruit Num.	I	I	I	II
4 vs. 9	N	Fruit Num.	III	II	II	III
4 vs. 10	C	Fruit Num.	II	I	II	II
4 vs. 10	N	Fruit Num.	I	I	I	I
6 vs. 9	C	Fruit Num.	I	I	I	II
6 vs. 9	N	Fruit Num.	III	II	II	II
6 vs. 10	C	Fruit Num.	II	I	II	II
6 vs. 10	N	Fruit Num.	I	I	I	I
9 vs. 10	C	Fruit Num.	II	I	II	I
9 vs. 10	N	Fruit Num.	II	I	I	II

TOTAL (96 comparisons):

I	**44**
II	**42**
III	**10**
IV	**0**