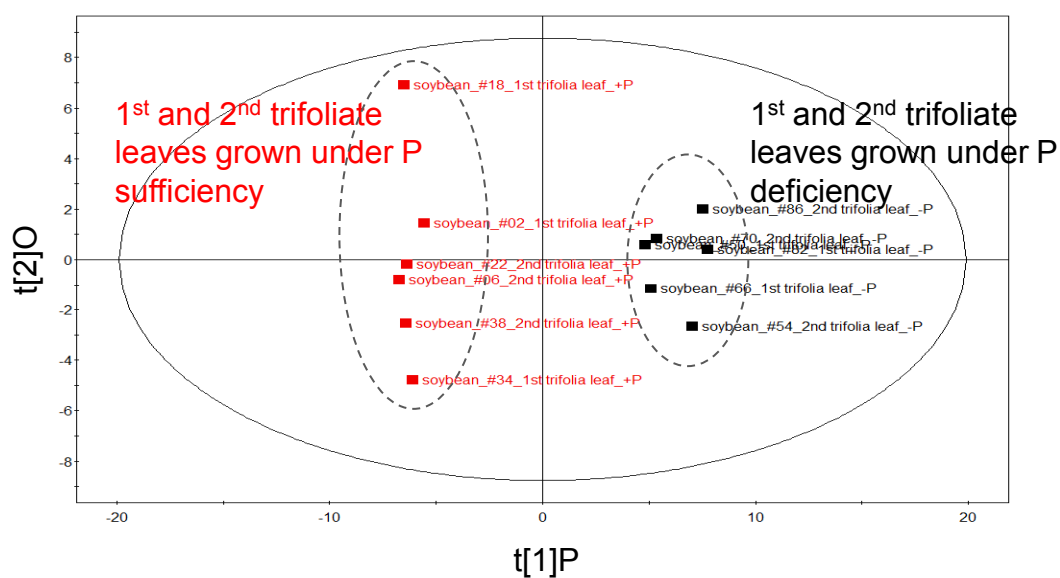


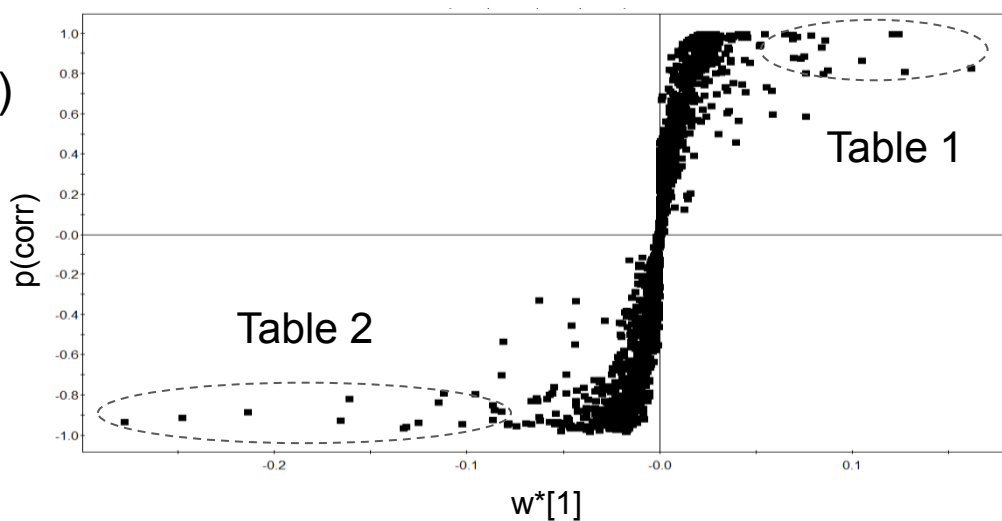
Supplementary Figure 1. Soybean plants grown under P-controlled conditions.

The seeds of soybean were incubated in wet potting mix for 10 days, and transplanted in rockwool to which MGRL hydroponic medium ([Fujiwara et al. 1992](#)) was supplied. After a 2-week incubation on rockwool, a central leaflet of each trifoliate leaf was harvested and subjected to LC-MS.

(A)

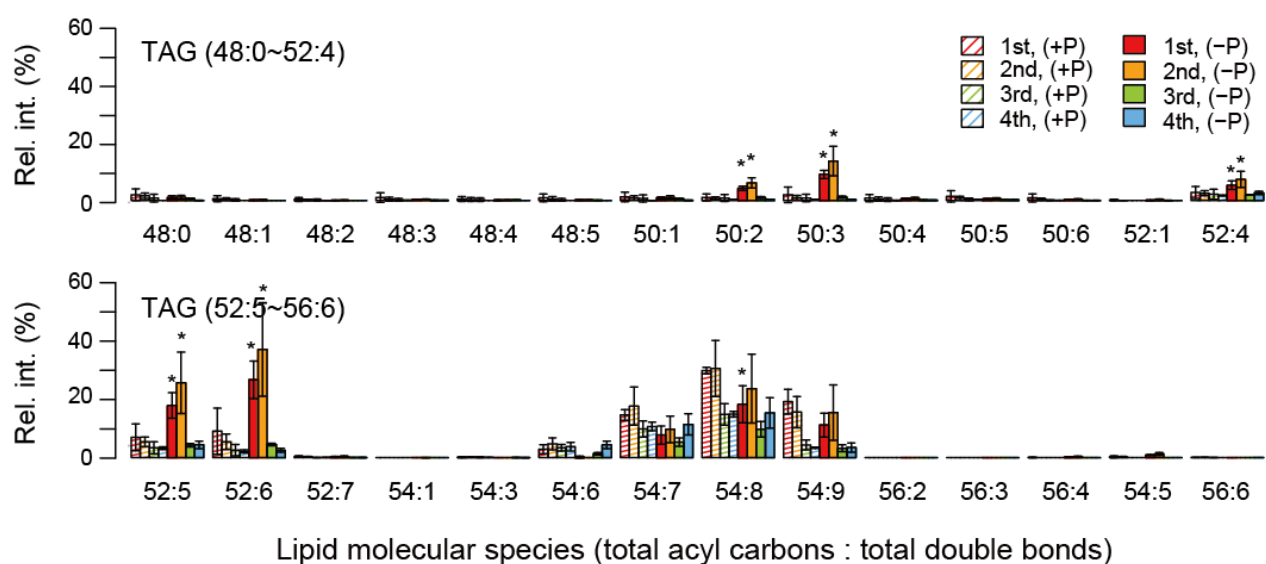
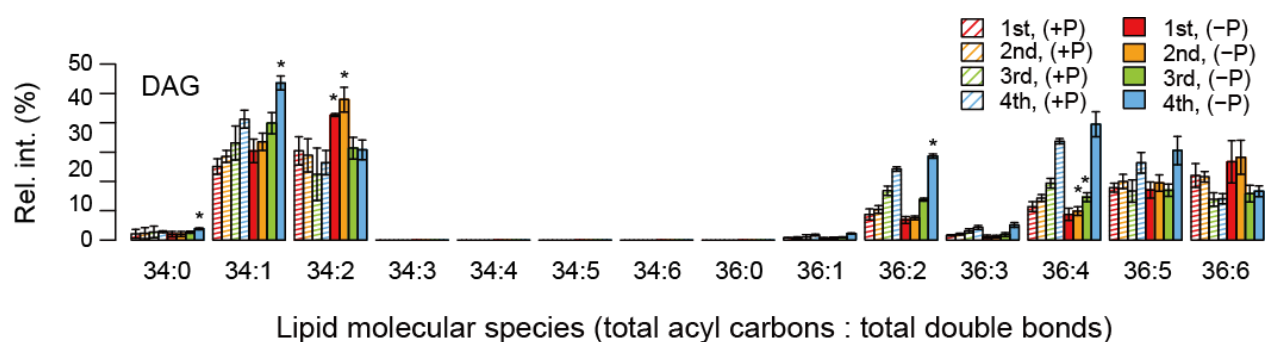


(B)



Supplemental Figure 2. OPLS-DA of lipidome data from 1st and 2nd trifoliolate leaves of soybean.

- (A) Score plot ($R^2X[1] = 0.5981$, $R^2X[2] = 0.1476$). The 2 groups of samples with different P availability are clearly separated.
- (B) S-plot. The variables that changed most and strongly contributed to the class separation are circled. Details of variables circled in the upper right and lower left are shown in Tables 1 and 2.



Supplemental Figure 3. Profiles of DAG and TAG in each trifoliolate leaf of soybean grown under P-sufficient or P-deficient growth conditions.

Intensity of each lipid signal was normalized based on that of the internal standard. Then, the normalized peak intensity of each lipid class of 1st trifoliolate leaf grown under P-sufficient growth conditions were summed, and the mean value of 3 biological replicates were calculated. Using this value (= 100% of y axis), relative intensity (Rel. int.) of each lipid signals in a particular lipid class was calculated and shown in this figure. Statistical significance in the changes in the levels of individual lipids upon P deficiency were examined by Welch's t-test.