



At the F2 stage, SNP marker based genotyping was used based on the *lpa* mutant allele of the *MRP1* gene, where 10 *lpa* and 10 wild type (wt) plants were identified.

5 *lpa* and 5 wild type (wt) plants were phenotyped for phytic acid levels, with the two lowest phytic acid lines *lpa-1* and *lpa-2* used for this study

Supplementary Figure 1. The low phytic acid bean lines used in this study (*lpa-1* and *lpa-2*) were generated at the International Centre of Tropical Agriculture (CIAT), Colombia, from the line *lpa-127-4* which is a BC2 (backcross 2) progeny arising from the backcrossing of the original *lpa* mutant *lpa280-10* (a homozygous monogenic recessive *lpa* mutant line originally obtained by EMS mutagenesis, [30]) with the bean cultivar BAT93. The line *lpa-127-4* was further backcrossed to BAT93 and the two low phytic acid *lpa* lines, *lpa-1* and *lpa-2*, were identified as having the lowest phytic acid content out of the lines screened across the F4 generation population.