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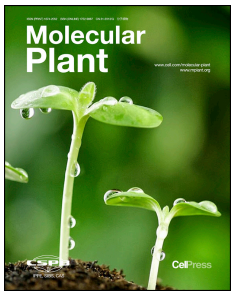

Genome-wide scan for seed composition provides insights into soybean quality improvement and the impacts of domestication and breeding

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Title: Genome-wide scan for seed composition provides insights into soybean quality improvement and the impacts of domestication and breeding

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Running title: Seed nutrient GWAS enlightens soybean improvement

Short Summary: Molecular and genomic investigation helps to reveal the genetic architecture of complex traits. By genome-wide association study, 138 quantitative trait loci associated with seed composition and many candidate genes were identified in soybean. The results also indicated a different genetic basis between seed weight based and total protein corrected amino acids, and revealed a marked impact of soybean domestication and modern breeding selection on six major-effect loci.