Supplementary information

Seed targeted RNAi-mediated silencing of *GmMIPS1* limits phytate accumulation and improves mineral bioavailability in soybean.

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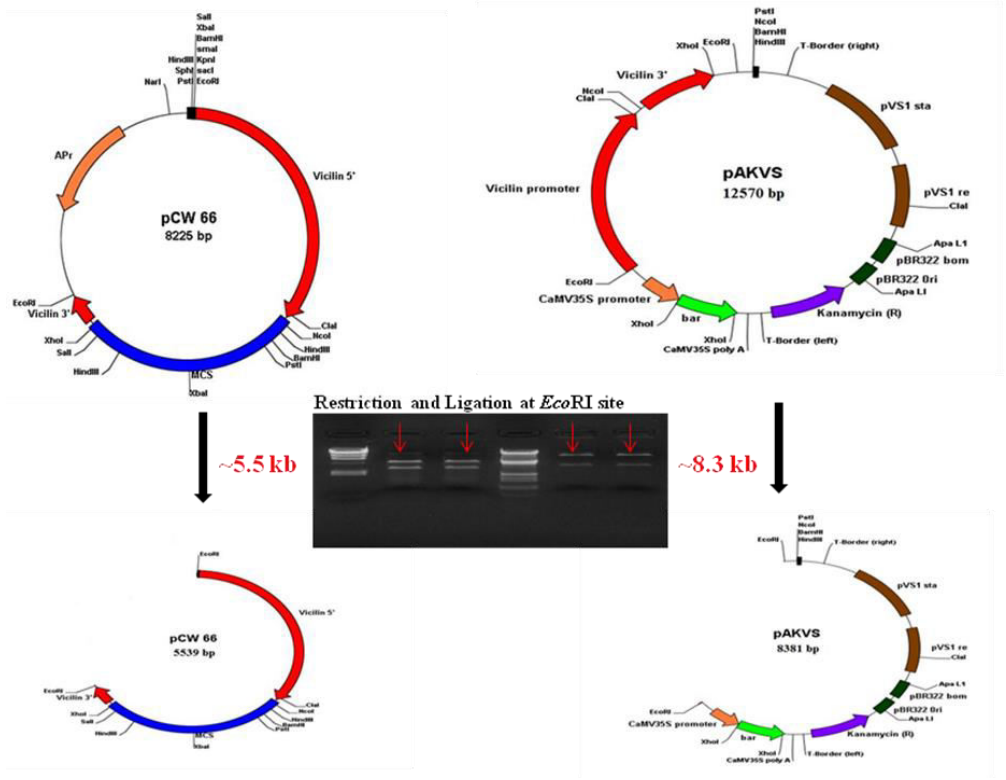
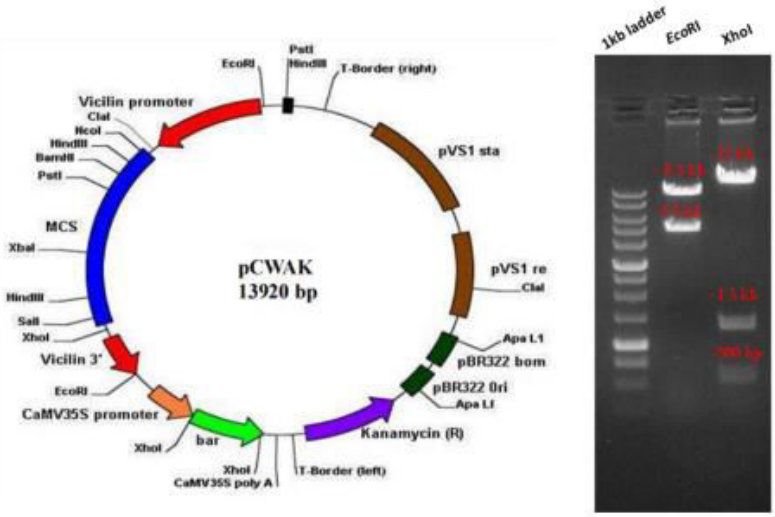
Supplementary figures:



Supplementary Fig1. Circular maps of pCW66 and pAKVS vectors. Restriction and ligation of pCW66 + pAKVS fragment (~5.5 kb + ~8.3 kb) at *Eco*RI site to generate a new binary vector pCWAK. 1% agarose gel showing *Eco*RI restricted fragment of both vectors along with λ *Hin*dIII and λ *Eco*RI/*Hin*dIII markers.



Supplementary Fig 2. Circular map of new binary vector pCWAK containing vicilin promoter with multiple restriction sites, plant selection marker *bar* gene and bacterial selection marker *kanamycin*. Restriction digestion of pCWAK; Lane 1: 1 kb ladder, lane 2: *Eco*RI digested pCWAK showing upper band of pAKVS (8.3 kb) and lower band of pCW66 (5.5 kb), Lane 3: *Xho*I digested pCWAK showing lower band of *bar* gene (500 bp).

Supplementary Fig 3. The transgenic lines and the non-transformed control were subjected to agronomic evaluation under control condition. Mature seeds in the transgenic lines were all viable, though per gram dry weight is slightly low but are more in number.