

GmERF54	MANNSGKSNKEGVEGTQLKVICSEGGWEEKKGGKRLDLSGRRQWKFVFDASVSHRPLKRTSPDPEN	70
AtERF53	MAIAKMGKSIKRLGTSEAEKKEMELDEEPFSSGKYKDSGPGSDMWLGASSTSPRSLLKTRIFLRN	54
GmERF54	ENQQQQQPSMLSLQPPSSRIVPPFAFESCHFMFPFHPFGITLPLFRPPLHPTQKISFSPSNMGY	140
AtERF53	PYLSSYATPQPPITTTCSVSFPYLPALQQRFLHNPDSGRQQQMISFDQQLWQPYWAQH	124
GmERF54	PPFLAPESTMPHEHQDQDQQLLYYSDALMLSPFGEMMMNRTE—GRQMLRPQAPLNAIKLYRGVR	207
AtERF53	—DQDQQLLYYWRDILKLSFGEMMMNMLRQESDLPLTRPPQPFSAIKLYRGVR	194
GmERF54	QRHWGKWAETIRPFRNTRLWLGTFTDAEAAAMAYDREAFKLRGENALNFFELFLNKDKAEQSITAPAS	277
AtERF53	QRHWGKWAETIRPFRNTRLWLGTFTDAEAAAMAYDREAFKLRGENALNFFELFLNKDEFTFVHQKQCE	264
GmERF54	SSNEGTSSTQNTKPEPIPECTTNTSEDMPTETFAVENAVTEEGISQFQELVWGEWFAIAPAGWPGGS	347
AtERF53	IGTISEDSSRRGEDDSSTALVGGVSEETG—WAEAWFAIAPAGWPGGS	311
GmERF54	FWDDLDPFNNLLLSQLPFVFNQTEFDAGASSRTQEDNNTFPGSSSPSCPMRPFF	406
AtERF53	FWDDYHFFISNKKDDLDTQSSSTTI—	339

Figure S1: Protein sequence alignment of GmERF54 and AtERF53

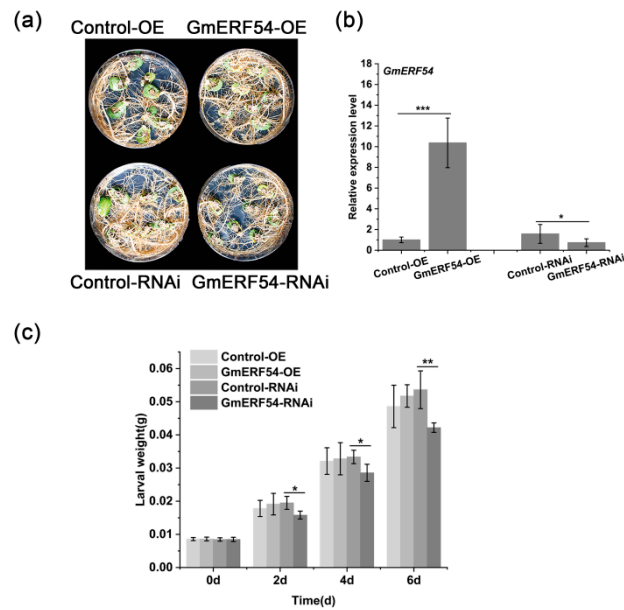


Figure S2. *GmERF54* transgenic soybean hairy roots and evaluation of CCW resistance. (a) *GmERF54* transgenic hairy roots. (b) Relative expression level of the *GmERF54* gene in transgenic hairy roots. The qRT-PCR results were relative to the expression level of the Control-OE lines and normalized to the *tubulin* control gene. $n = 3$. (c) Average larval weight of CCW feeding on *GmERF54* transgenic hairy roots after 0, 2, 4 and 6 days of feeding. $n = 4$. Control-OE: the empty vector pMDC83; GmERF54-OE: over-expression of *GmERF54*; Control-RNAi: the empty vector pB7GWIWG2(II); GmERF54-RNAi: RNA interference of *GmERF54*. A two-tailed *t*-test was used to detect statistical significance. *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$. Error bars denote \pm SD.