

Figure S1. The effect of GA<sub>3</sub> application on the expression profiles of the GA responsive *VvGASA2* gene and the central components of GA metabolism. Total RNA was extracted from control (0.02% Triton X-100) and GA (10 ppm GA<sub>3</sub> with 0.02% Triton X-100) at 48 and 96 h after treatment, as described in Materials and Methods. Relative expression of *VvGASA2* (A), *VvGA2ox3* (B), *VvGA2ox4* (C), *VvGA3ox1* (D), *VvGA3ox2* (E), *VvGA20ox3* (F) and *VvGA20ox6* (G) were determined by qRT-PCR, as described in Materials and Methods, normalized against *VvActin* and *VvGAPDH*. Values represent the mean expression  $\pm$  SE of three biological replications, each with two technical repeats. Asterisks between treatments indicate significantly differences according to Student's t-test (\*, *P* < 0.05).



Figure S2. The effect of GA<sub>4+7</sub> application on bud break of single node cuttings. Cuttings were sprayed with 10 ppm GA<sub>4+7</sub> (ratio of GA<sub>4</sub> to GA<sub>7</sub> is 2:1, Duchefa, Haarlem, The Netherlands) formulated with 0.02% Triton X-100, placed in vases and monitored for 25 d as described in Materials and Methods. Triton X-100 (0.02%)-treated buds served as control. Values are averages of nine groups of replications, consisting of 10 buds each  $\pm$  SE. Asterisks between treatments indicate significantly differences according to Student's t-test (\*, *P* < 0.05).

Figure	GA type	GA app day	GA (ppm)	3% HC app day	Treatment label	Monitoring days from 0 d
4A	GA <sub>3</sub>	none	none	none	Control	24, 28
4A	GA <sub>3</sub>	0 d	1.25	none	GA (1.25)	24, 28, 67
4A	GA <sub>3</sub>	0 d	2.5	none	GA (2.5)	24, 28, 67
4A	GA <sub>3</sub>	0 d	5	none	GA (5)	24, 28, 67, 77, 87, 95
4A	GA <sub>3</sub>	0 d	10	none	GA (10)	24, 28, 67, 77, 87, 95, 107
4A	GA <sub>3</sub>	0 d	20	none	GA (20)	24, 28, 67, 77, 87, 95, 107
4A	GA <sub>3</sub>	0 d	40	none	GA (40)	24, 28, 67, 77, 87, 95, 107
4B	GA <sub>3</sub>	none	none	none	Control	7, 10, 14, 17, 21, 24, 28
4B	GA <sub>3</sub>	0 d	0.001	none	GA (0.001)	7, 10, 14, 17, 21, 24, 28
4B	GA <sub>3</sub>	0 d	0.01	none	GA (0.01)	7, 10, 14, 17, 21, 24, 28
4B	GA <sub>3</sub>	0 d	0.1	none	GA (0.1)	7, 10, 14, 17, 21, 24, 28
4B	GA <sub>3</sub>	0 d	1	none	GA (1)	7, 10, 14, 17, 21, 24, 28
S1	GA <sub>4+7</sub>	none	none	none	Control	7, 11, 14, 18, 21, 25
S1	GA <sub>4+7</sub>	0 d	10	none	GA <sub>4+7</sub>	7, 11, 14, 18, 21, 25
4C	GA <sub>3</sub>	none	none	none	Control	40, 48, 55
4C	GA <sub>3</sub>	0 d	10	none	GA	40, 48, 55
5A	GA <sub>3</sub>	none	none	none	Control	11, 14, 18, 21, 25
5A	GA <sub>3</sub>	0 d	1	none	GA (1)	11, 14, 18, 21, 25
5A	GA <sub>3</sub>	0 d	5	none	GA (5)	11, 14, 18, 21, 25
5A	GA <sub>3</sub>	0 d	10	none	GA (10)	11, 14, 18, 21, 25
5B	GA <sub>3</sub>	none	none	0 d	HC HC (1)	11, 14, 18, 21, 25
5B	GA <sub>3</sub>	0 d	I r	0 d	HC-GA (1)	11, 14, 18, 21, 25
5B	GA <sub>3</sub>	0 d	5	0 d	HC-GA (5)	11, 14, 18, 21, 25
<u> 58</u>	GA <sub>3</sub>	0 d	10	0 d	HC-GA (10)	11, 14, 18, 21, 25
7.	C A				Control	
7A 7A	GA <sub>3</sub>	none	none			11, 14, 18, 21
7A 7A	GA3		10	0.4		11, 14, 10, 21
7A 7A	GA3	2.4	10	0.4	$\frac{\text{HC-GA}(0 \text{ u})}{\text{HC-GA}(2 \text{ d})}$	11, 14, 16, 21
7A 7A	GA	2 U 6 d	10	0 d	$\frac{\text{HC-GA}(2 \text{ u})}{\text{HC-GA}(6 \text{ d})}$	11, 14, 16, 21
7A 7A	GA:	10	10	0 d	HC CA (0 u)	11, 14, 18, 21
/A	UA3	10	10	υu	IIC-GA (IV U)	11, 14, 10, 21
7B	GA	none	none	none	Control	7 10 11 13 14 17 21
7B	GA <sub>2</sub>	0 d	1	none	GA (0 d)	7 10 11 13 14 17 21
7B	GA <sub>2</sub>	7 d	1	none	GA (7 d)	7 10 11 13 14 17 21
, D	0113	, u	1	110110		, 10, 11, 10, 11, 17, 21
7C	GA <sub>2</sub>	none	none	none	Control	3, 4, 5, 6, 7, 10, 14
7C	GA <sub>3</sub>	0 d	1	none	GA (0 d)	3, 4, 5, 6, 7, 10, 14
7C	GA <sub>3</sub>	3 d	1	none	GA (3 d)	3, 4, 5, 6, 7, 10, 14

Table S1: Schematic details of all the GA treatments

	Forward primer (5' to 3')	Reverse primer (5' to 3')	Accession number				
VvGA3ox1	CCTCAGAACTCGTGGGTCAT	TGGGCAGGTAGAGAGAAAAGG	VIT_09s0002g05270 <sup>a</sup>				
VvGA3ox2	CCCCACATACAGACTCATTGC	TCCACCCAACTCCATCTCTC	VIT_04s0008g04940 <sup>a</sup>				
VvGA20ox3	GCCTAAAACCCGACCTCACT	GGACCACCATTTGTCATCTACA	VIT_16s0022g02310 <sup>a</sup>				
VvGA20ox6	GGTGTTCTTCGTGTGCCCTA	CTTCCTTGTCCCTTCTCTGC	VIT_18s0001g01390 <sup>a</sup>				
VvGA2ox3	TGTGAAGCATAGGGTGTTGA	ATGAGTGAGGGCAATGGTG	VIT_19s0140g00120 <sup>a</sup>				
VvGA2ox4	GCTCTGCTGTGAGTGGTTACA	ATGTGTGATGAGGCTGCTGA	VIT_05s0077g00520 <sup>a</sup>				
VvGASA2	CCCAAACCCCTCTCCTCTTTC	GGCGATCCAATGCTTCGAAC	VIT_14s0108g00740 <sup>a</sup>				
VvGAPDH	TTCTCGTTGAGGGCTATTCCA	CCACAGACTTCATCGGTGACA	CB973647 <sup>b</sup>				
VvActin	CTTGCATCCCTCAGCACCTT	TCCTGTGGACAATGGATGGA	EC969944 <sup>b</sup>				
<sup>a</sup> Accessions from Ensemblplants: http://plants.ensembl.org/index.html							
<sup>b</sup> NCBI accessions							

 Table S2: Primers used for gene expression analyses by qRT-PCR