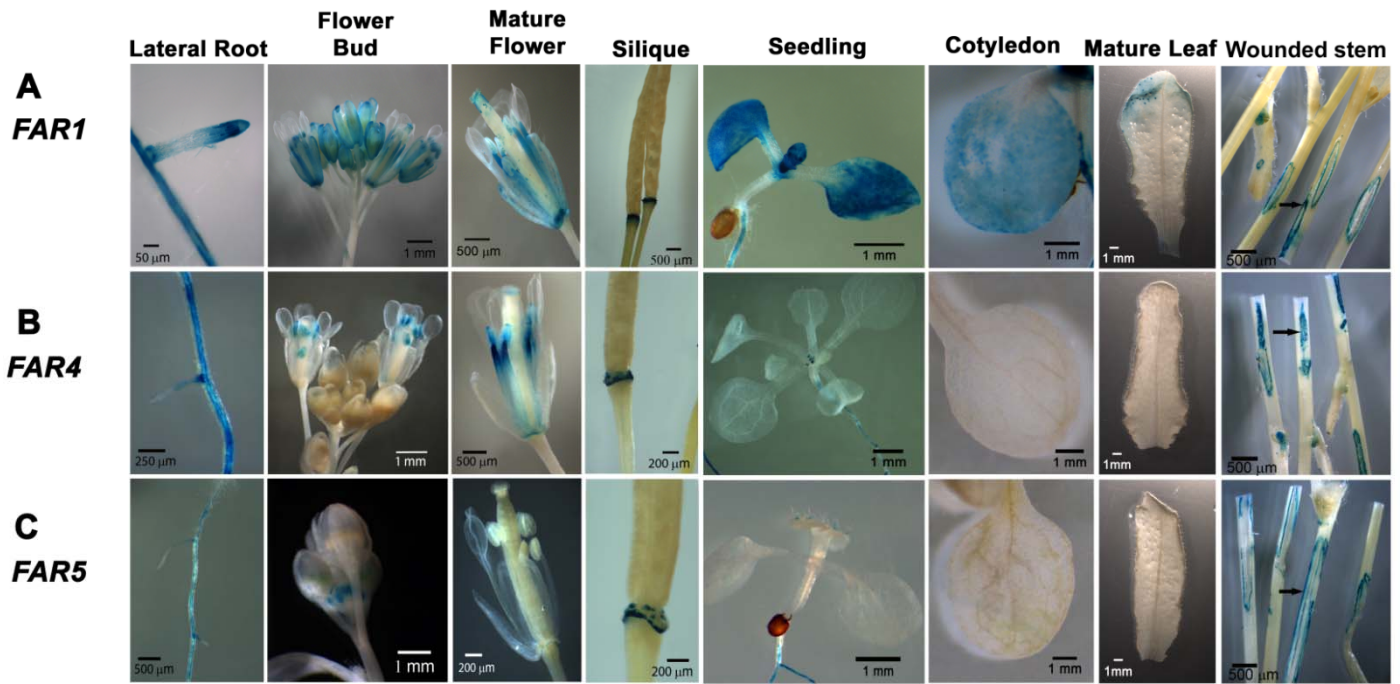
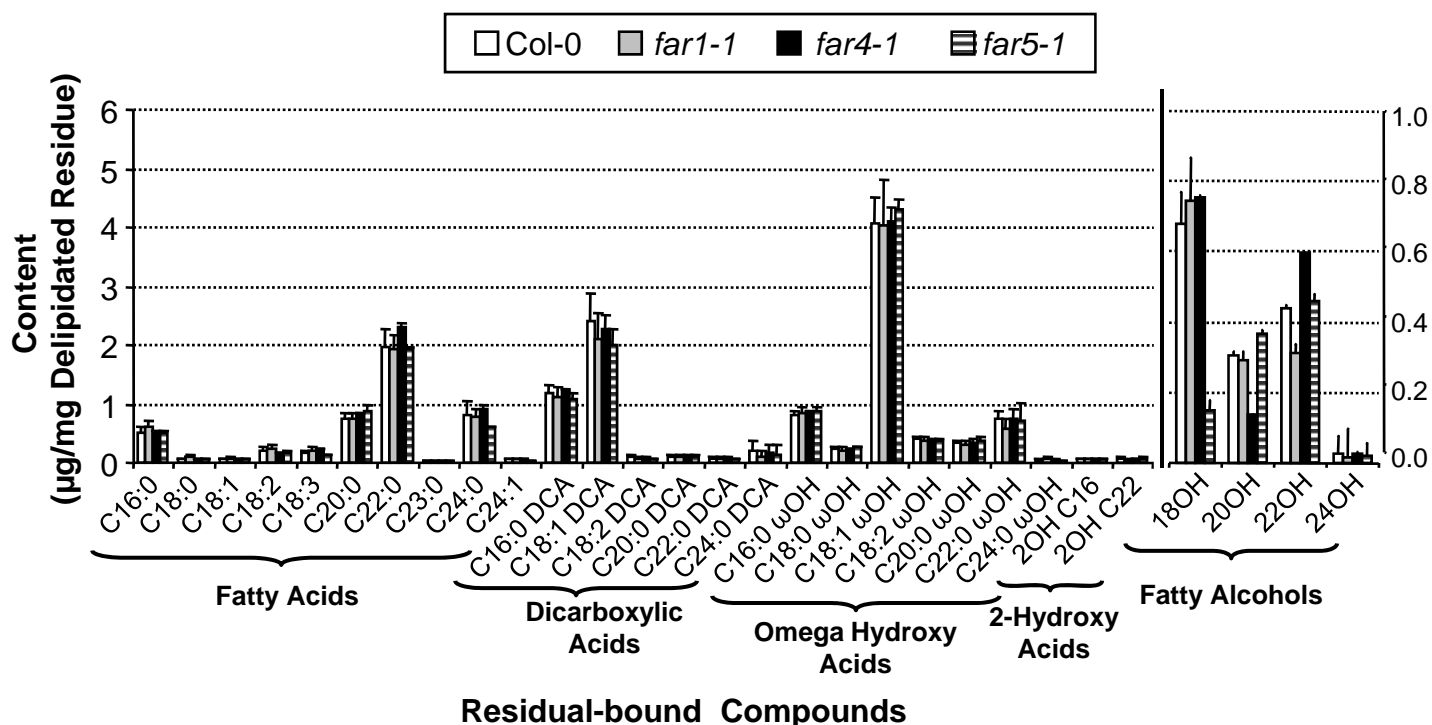


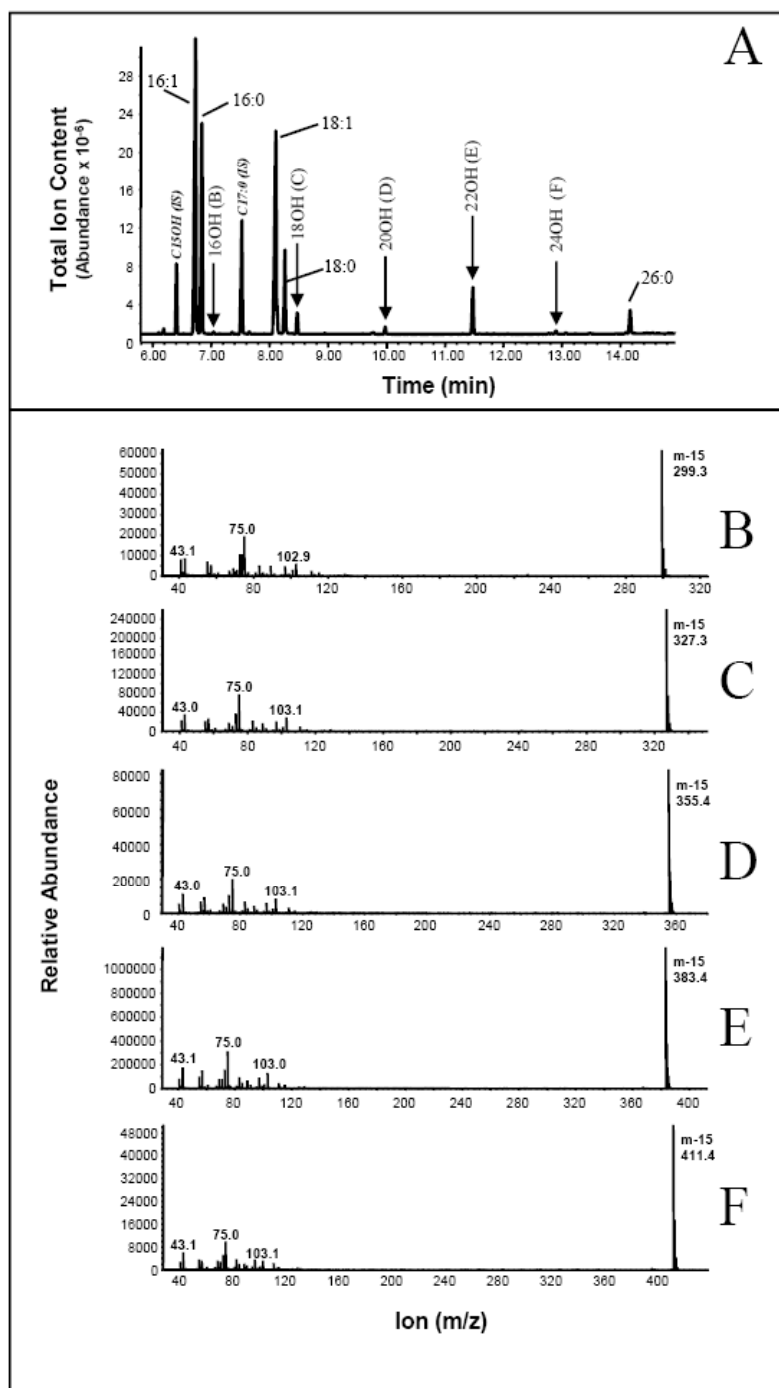
Supplemental Data



Supplemental Figure S1. Expression patterns of *FAR1* (A), *FAR4* (B), and *FAR5* (C) detected in transgenic promoter:GUS lines. Roots, whole seedlings, and cotyledons were collected from 1-2 week old seedlings grown on vertical plates in tissue culture. Young and mature flowers, siliques, and mature leaves were taken from adult plants grown on soil. The stems of 6-week-old plants were slit with a needle and stained for GUS activity 24 hours after wounding.



Supplemental Figure S2. Aliphatic suberin composition in roots of tissue culture-grown wild-type, *far1-1*, *far4-1*, and *far5-1* plants. Suberin monomer composition sorted by chain length and compound class along the x-axis. The amounts of fatty alcohols reported are at a different scale (right side of panel) than the other components (left side of panel). All values are the means shown in µg/mg delipidated dry residue (DR) of residue + SD of three to five replicates.



Supplemental Figure S3. Identification by gas chromatography-mass spectrometry of primary fatty alcohols produced in transgenic yeast expressing Arabidopsis FAR1. (A) Gas chromatogram of acyl-chains extracted from yeast expressing FAR1. Yeast cells were pelleted by centrifugation and directly trimethylsilylated. Hydroxyl groups were trimethylsilylated (TMS) before separation by gas chromatography and detection of ions with a mass spectrometer. The peaks corresponding to the internal standards (IS) pentadecanol (C15:0-O-TMS) and heptadecanoic acid methyl ester (C17:0) are indicated. Also indicated, the C16:1, C16:0, C18:1, C18:0, and C26:0 fatty acid methyl esters peaks, and the C16:0-O-TMS (B), C18:0-O-TMS (C), C20:0-O-TMS (D), C22:0-O-TMS (E), and C24:0-O-TMS (F) derivatized primary fatty alcohol peaks. (B-F) Mass spectra of derivatized primary fatty alcohol peaks indicated in panel (A).

Supplemental Table S1. Fatty Acyl-CoA Reductase (FAR) genes in *Arabidopsis thaliana*

Gene Names	Names in the literature	Arabidopsis loci	References
<i>FAR1</i>		At5g22500	Doan et al., 2008 This study
<i>FAR2</i>	<i>MS2</i>	At3g11980	Aarts et al., 1997 Doan et al., 2008
<i>FAR3</i>	<i>CER4</i>	At4g33790	Rowland et al., 2006 Doan et al., 2008
<i>FAR4</i>		At3g44540	This study
<i>FAR5</i>		At3g44550	This study
<i>FAR6</i>		At3g56700	Doan et al., 2008
<i>FAR7</i>		At5g22420	Doan et al., 2008
<i>FAR8</i>		At3g44560	Doan et al., 2008

Supplemental Table S2. *Composition of residual bound lipids in whole roots of soil-grown wild-type, far1, far4, and far5 plants*Each value is the mean shown in $\mu\text{g}/\text{mg}$ delipidated dry weight of residue \pm SD of five biological replicates.

	WT	<i>far1-1</i>	<i>far1-2</i>	<i>far4-1</i>	<i>far4-2</i>	<i>far5-1</i>	<i>far5-2</i>
Fatty Acids							
C16:0	0.32 \pm 0.03	0.27 \pm 0.04	0.30 \pm 0.03	0.32 \pm 0.06	0.32 \pm 0.07	0.38 \pm 0.19	0.32 \pm 0.09
C18:0	0.05 \pm 0.01	0.04 \pm 0.00	0.06 \pm 0.01	0.08 \pm 0.04	0.05 \pm 0.01	0.10 \pm 0.07	0.07 \pm 0.01
C18:1	0.06 \pm 0.01	0.04 \pm 0.01	0.04 \pm 0.00	0.07 \pm 0.03	0.05 \pm 0.02	0.07 \pm 0.02	0.06 \pm 0.02
C18:2	0.27 \pm 0.06	0.20 \pm 0.06	0.17 \pm 0.08	0.23 \pm 0.05	0.23 \pm 0.09	0.25 \pm 0.11	0.26 \pm 0.12
C18:3	0.17 \pm 0.04	0.14 \pm 0.04	0.13 \pm 0.05	0.22 \pm 0.08	0.17 \pm 0.06	0.21 \pm 0.11	0.21 \pm 0.05
C20:0	0.39 \pm 0.08	0.36 \pm 0.14	0.38 \pm 0.04	0.49 \pm 0.04	0.47 \pm 0.11	0.59 \pm 0.07	0.49 \pm 0.15
C22:0	1.08 \pm 0.14	0.87 \pm 0.22	0.77 \pm 0.07	1.02 \pm 0.21	1.07 \pm 0.19	1.28 \pm 0.03	1.19 \pm 0.06
C23:0	0.04 \pm 0.01	0.02 \pm 0.00	0.02 \pm 0.01	0.03 \pm 0.00	0.03 \pm 0.01	0.03 \pm 0.01	0.03 \pm 0.01
C24:0	0.30 \pm 0.10	0.21 \pm 0.02	0.17 \pm 0.07	0.21 \pm 0.06	0.26 \pm 0.11	0.27 \pm 0.09	0.35 \pm 0.09
C24:1	0.03 \pm 0.00	0.02 \pm 0.00	0.02 \pm 0.01	0.02 \pm 0.00	0.03 \pm 0.00	0.03 \pm 0.01	0.03 \pm 0.00
C25:0	0.02 \pm 0.00	0.01 \pm 0.01	0.01 \pm 0.00	0.04 \pm 0.05	0.01 \pm 0.01	0.02 \pm 0.01	0.01 \pm 0.00
C26:0	0.02 \pm 0.01	0.03 \pm 0.02	0.02 \pm 0.01	0.03 \pm 0.01	0.02 \pm 0.02	0.02 \pm 0.02	0.04 \pm 0.01
C28:0	0.01 \pm 0.00	0.02 \pm 0.00	0.01 \pm 0.00	0.01 \pm 0.01	0.01 \pm 0.01	0.00 \pm 0.00	0.01 \pm 0.01
Dicarboxylic Acids							
C16:0 DCA	0.65 \pm 0.10	0.52 \pm 0.17	0.55 \pm 0.06	0.66 \pm 0.09	0.65 \pm 0.11	0.72 \pm 0.07	0.65 \pm 0.13
C18:1 DCA	1.50 \pm 0.13	1.21 \pm 0.38	1.11 \pm 0.08	1.47 \pm 0.32	1.45 \pm 0.18	1.64 \pm 0.07	1.48 \pm 0.15
C18:2 DCA	0.10 \pm 0.01	0.06 \pm 0.01	0.04 \pm 0.02	0.07 \pm 0.03	0.08 \pm 0.03	0.09 \pm 0.03	0.20 \pm 0.21
C20:0 DCA	0.10 \pm 0.01	0.08 \pm 0.02	0.07 \pm 0.02	0.10 \pm 0.02	0.09 \pm 0.02	0.12 \pm 0.01	0.09 \pm 0.02
C22:0 DCA	0.11 \pm 0.01	0.08 \pm 0.03	0.06 \pm 0.02	0.10 \pm 0.04	0.10 \pm 0.01	0.13 \pm 0.01	0.10 \pm 0.02
ω-Hydroxy Acids							
C16:0 ω OH	0.61 \pm 0.14	0.57 \pm 0.20	0.64 \pm 0.08	0.71 \pm 0.06	0.66 \pm 0.16	0.78 \pm 0.10	0.66 \pm 0.24
C18:0 ω OH	0.16 \pm 0.04	0.16 \pm 0.07	0.17 \pm 0.02	0.19 \pm 0.02	0.19 \pm 0.05	0.26 \pm 0.05	0.20 \pm 0.09
C18:1 ω OH	2.75 \pm 0.46	2.65 \pm 1.07	2.70 \pm 0.20	3.17 \pm 0.40	2.94 \pm 0.71	3.62 \pm 0.41	2.90 \pm 1.01
C18:2 ω OH	0.24 \pm 0.04	0.20 \pm 0.07	0.20 \pm 0.01	0.25 \pm 0.02	0.25 \pm 0.03	0.28 \pm 0.03	0.23 \pm 0.05
C20:0 ω OH	0.31 \pm 0.06	0.28 \pm 0.11	0.30 \pm 0.03	0.37 \pm 0.03	0.35 \pm 0.08	0.45 \pm 0.07	0.34 \pm 0.12
C20:1 ω OH	0.02 \pm 0.00	0.02 \pm 0.01	0.02 \pm 0.00	0.02 \pm 0.01	0.02 \pm 0.00	0.02 \pm 0.00	0.02 \pm 0.00
C22:0 ω OH	0.93 \pm 0.08	0.77 \pm 0.23	0.64 \pm 0.07	0.90 \pm 0.15	0.88 \pm 0.15	1.09 \pm 0.07	0.90 \pm 0.19
C24:0 ω OH	0.09 \pm 0.04	0.08 \pm 0.04	0.04 \pm 0.03	0.06 \pm 0.02	0.06 \pm 0.03	0.07 \pm 0.05	0.11 \pm 0.02
C26:0 ω OH	0.02 \pm 0.01	0.04 \pm 0.05	0.02 \pm 0.01	0.02 \pm 0.01	0.02 \pm 0.01	0.02 \pm 0.02	0.03 \pm 0.01
C28:0 ω OH	0.01 \pm 0.01	0.03 \pm 0.03	0.00 \pm 0.01	0.01 \pm 0.01	0.01 \pm 0.01	0.01 \pm 0.01	0.02 \pm 0.01
2-Hydroxy Acids							
C16:0-2OH	0.03 \pm 0.01	0.03 \pm 0.01	0.02 \pm 0.01	0.03 \pm 0.01	0.02 \pm 0.01	0.03 \pm 0.01	0.03 \pm 0.01
C22:0-2OH	0.07 \pm 0.03	0.07 \pm 0.03	0.05 \pm 0.03	0.05 \pm 0.01	0.05 \pm 0.03	0.07 \pm 0.03	0.06 \pm 0.04
C23:0-2OH	0.02 \pm 0.01	0.02 \pm 0.01	0.01 \pm 0.01	0.02 \pm 0.00	0.02 \pm 0.01	0.02 \pm 0.01	0.01 \pm 0.01
C24:0-2OH	0.30 \pm 0.13	0.32 \pm 0.15	0.19 \pm 0.13	0.21 \pm 0.04	0.22 \pm 0.15	0.28 \pm 0.13	0.27 \pm 0.17
C24:1-2OH	0.16 \pm 0.03	0.17 \pm 0.00	0.14 \pm 0.04	0.16 \pm 0.01	0.12 \pm 0.03	0.17 \pm 0.04	0.18 \pm 0.01
C25:0-2OH	0.03 \pm 0.01	0.02 \pm 0.01	0.01 \pm 0.01	0.02 \pm 0.00	0.02 \pm 0.01	0.02 \pm 0.01	0.02 \pm 0.01
C25:1-2OH	0.02 \pm 0.01	0.02 \pm 0.00	0.01 \pm 0.01	0.03 \pm 0.01	0.02 \pm 0.00	0.02 \pm 0.00	0.04 \pm 0.04
C26:0-2OH	0.04 \pm 0.02	0.04 \pm 0.02	0.02 \pm 0.02	0.03 \pm 0.00	0.03 \pm 0.02	0.03 \pm 0.02	0.04 \pm 0.03
C26:1-2OH	0.02 \pm 0.00	0.02 \pm 0.01	0.01 \pm 0.01	0.02 \pm 0.00	0.01 \pm 0.01	0.02 \pm 0.01	0.04 \pm 0.04
Fatty Alcohols							
C18:0-OH	0.35 \pm 0.09	0.32 \pm 0.14	0.46 \pm 0.12	0.38 \pm 0.02	0.38 \pm 0.07	0.07 \pm 0.03	0.07 \pm 0.05
C20:0-OH	0.19 \pm 0.03	0.14 \pm 0.04	0.15 \pm 0.01	0.10 \pm 0.01	0.19 \pm 0.02	0.31 \pm 0.05	0.32 \pm 0.08
C22:0-OH	0.18 \pm 0.04	0.12 \pm 0.02	0.12 \pm 0.01	0.22 \pm 0.00	0.20 \pm 0.03	0.33 \pm 0.05	0.29 \pm 0.06
C24:0-OH	0.02 \pm 0.01	0.02 \pm 0.00	0.02 \pm 0.00	0.02 \pm 0.00	0.02 \pm 0.00	0.02 \pm 0.00	0.02 \pm 0.00
Unknowns	0.15 \pm 0.06	0.11 \pm 0.04	0.22 \pm 0.16	0.34 \pm 0.34	0.14 \pm 0.03	0.17 \pm 0.06	0.31 \pm 0.27
Total	11.91 \pm 1.00	10.41 \pm 2.39	10.11 \pm 0.27	12.91 \pm 0.48	11.91 \pm 1.29	14.11 \pm 0.55	12.73 \pm 1.80

Supplemental Table S3. *Composition of residual bound lipids in seeds of wild-type, far1-1, far4-1, and far5-1 plants*

Each value is the mean shown in $\mu\text{g}/\text{mg}$ delipidated dry weight of residue \pm SD of three biological replicates.

	WT	<i>far1-1</i>	<i>far4-1</i>	<i>far5-1</i>
Aromatics				
<i>trans</i> -cinnamic acid	0.026 \pm 0.013	0.010 \pm 0.003	0.023 \pm 0.006	0.019 \pm 0.004
<i>cis</i> -ferulic acid	0.041 \pm 0.021	0.034 \pm 0.007	0.044 \pm 0.023	0.060 \pm 0.010
<i>trans</i> -ferulic acid	0.204 \pm 0.078	0.238 \pm 0.021	0.212 \pm 0.058	0.222 \pm 0.031
<i>cis</i> -sinapic acid	0.041 \pm 0.022	0.027 \pm 0.005	0.024 \pm 0.013	0.049 \pm 0.007
<i>trans</i> -sinapic acid	0.186 \pm 0.050	0.213 \pm 0.045	0.184 \pm 0.019	0.169 \pm 0.025
Fatty Acids				
C16:0	0.138 \pm 0.014	0.128 \pm 0.017	0.127 \pm 0.022	0.142 \pm 0.010
C18:0	0.037 \pm 0.005	0.032 \pm 0.005	0.036 \pm 0.008	0.040 \pm 0.002
C18:1	0.013 \pm 0.002	0.009 \pm 0.002	0.010 \pm 0.002	0.010 \pm 0.001
C18:2	0.057 \pm 0.008	0.064 \pm 0.017	0.056 \pm 0.011	0.051 \pm 0.002
C18:3	0.047 \pm 0.007	0.048 \pm 0.011	0.042 \pm 0.006	0.050 \pm 0.012
C20:0	0.032 \pm 0.003	0.028 \pm 0.004	0.026 \pm 0.003	0.028 \pm 0.002
C20:1	0.036 \pm 0.015	0.032 \pm 0.009	0.048 \pm 0.025	0.057 \pm 0.006
C21:0 methylated	0.016 \pm 0.007	0.021 \pm 0.002	0.017 \pm 0.004	0.018 \pm 0.003
C22:0	0.036 \pm 0.009	0.043 \pm 0.004	0.045 \pm 0.008	0.043 \pm 0.003
C23:0	0.008 \pm 0.002	0.011 \pm 0.003	0.013 \pm 0.004	0.010 \pm 0.001
C24:0	0.096 \pm 0.018	0.131 \pm 0.013	0.123 \pm 0.026	0.125 \pm 0.008
C26:0	0.031 \pm 0.007	0.030 \pm 0.003	0.034 \pm 0.003	0.030 \pm 0.004
C26:1	0.027 \pm 0.010	0.034 \pm 0.002	0.035 \pm 0.009	0.029 \pm 0.003
Dicarboxylic Acids				
C16:0 DCA	0.049 \pm 0.011	0.072 \pm 0.008	0.063 \pm 0.024	0.070 \pm 0.003
C18:1 DCA	0.145 \pm 0.024	0.162 \pm 0.012	0.137 \pm 0.035	0.146 \pm 0.009
C18:2 DCA	0.166 \pm 0.037	0.221 \pm 0.025	0.198 \pm 0.035	0.179 \pm 0.004
C20:0 DCA	0.015 \pm 0.006	0.015 \pm 0.004	0.020 \pm 0.008	0.012 \pm 0.001
C22:0 DCA	0.111 \pm 0.024	0.115 \pm 0.013	0.0952 \pm 0.021	0.096 \pm 0.005
C23:0 DCA	0.017 \pm 0.008	0.017 \pm 0.004	0.017 \pm 0.004	0.015 \pm 0.001
C24:0 DCA	0.347 \pm 0.098	0.383 \pm 0.045	0.358 \pm 0.088	0.392 \pm 0.023
ω-Hydroxy Acids				
C16:0 ω OH	0.043 \pm 0.007	0.058 \pm 0.006	0.056 \pm 0.009	0.062 \pm 0.004
C18:0 ω OH	0.008 \pm 0.001	0.011 \pm 0.001	0.010 \pm 0.002	0.010 \pm 0.001
C18:1 ω OH	0.105 \pm 0.011	0.113 \pm 0.011	0.095 \pm 0.018	0.113 \pm 0.006
C18:2 ω OH	0.062 \pm 0.011	0.066 \pm 0.006	0.056 \pm 0.005	0.052 \pm 0.002
C20:0 ω OH	0.025 \pm 0.002	0.033 \pm 0.006	0.034 \pm 0.006	0.044 \pm 0.004
C21:0 ω OH methylated	0.050 \pm 0.008	0.058 \pm 0.005	0.063 \pm 0.013	0.064 \pm 0.002
C22:0 ω OH	0.201 \pm 0.028	0.256 \pm 0.025	0.209 \pm 0.056	0.253 \pm 0.005
C23:0 ω OH	0.017 \pm 0.006	0.019 \pm 0.004	0.023 \pm 0.004	0.024 \pm 0.005
C23:0 ω OH methylated	0.013 \pm 0.004	0.019 \pm 0.003	0.024 \pm 0.006	0.023 \pm 0.002
C24:0 ω OH	0.644 \pm 0.089	0.713 \pm 0.059	0.640 \pm 0.106	0.755 \pm 0.030
Mid-Chain Hydroxy Fatty Acids				
C16:0 DiOH	0.023 \pm 0.005	0.035 \pm 0.008	0.026 \pm 0.005	0.037 \pm 0.009
C18:1 triOH	0.231 \pm 0.032	0.241 \pm 0.040	0.204 \pm 0.034	0.197 \pm 0.025
2-Hydroxy Acids				
C16:0-2OH	0.018 \pm 0.002	0.022 \pm 0.004	0.028 \pm 0.007	0.023 \pm 0.004
C20:0-2OH	0.008 \pm 0.002	0.011 \pm 0.001	0.011 \pm 0.003	0.010 \pm 0.001
C22:0-2OH	0.034 \pm 0.007	0.022 \pm 0.005	0.033 \pm 0.005	0.028 \pm 0.005
C23:0-2OH	0.016 \pm 0.005	0.016 \pm 0.001	0.017 \pm 0.002	0.016 \pm 0.002
C24:0-2OH	0.093 \pm 0.015	0.087 \pm 0.006	0.104 \pm 0.014	0.103 \pm 0.011

Supplemental Table S3 continued. *Composition of residual bound lipids in seeds of wild-type, far1-1, far4-1, and far5-1 plants*

Each value is the mean shown in $\mu\text{g}/\text{mg}$ delipidated dry weight of residue \pm SD of three biological replicates.

	WT	<i>far1-1</i>	<i>far4-1</i>	<i>far5-1</i>
C25:1-2OH	0.014 \pm 0.003	0.008 \pm 0.002	0.022 \pm 0.008	0.013 \pm 0.002
C25:0-2OH	0.01 \pm 0.003	0.010 \pm 0.001	0.018 \pm 0.003	0.014 \pm 0.002
C26:0-2OH	0.034 \pm 0.011	0.039 \pm 0.011	0.056 \pm 0.009	0.050 \pm 0.005
C26:1-2OH	0.025 \pm 0.005	0.027 \pm 0.009	0.040 \pm 0.006	0.031 \pm 0.006
Fatty Alcohols				
C18:0-OH	0.045 \pm 0.006	0.047 \pm 0.006	0.032 \pm 0.007	0.004 \pm 0.001
C19:0-OH	0.016 \pm 0.008	0.011 \pm 0.003	0.008 \pm 0.002	0.004 \pm 0.002
C20:0-OH	0.061 \pm 0.010	0.058 \pm 0.007	0.025 \pm 0.003	0.068 \pm 0.003
C21:0-OH methylated	0.033 \pm 0.004	0.012 \pm 0.001	0.024 \pm 0.004	0.028 \pm 0.003
C22:0-OH	0.219 \pm 0.022	0.077 \pm 0.008	0.232 \pm 0.049	0.227 \pm 0.018
C23:0-OH	0.018 \pm 0.003	0.013 \pm 0.001	0.023 \pm 0.005	0.021 \pm 0.002
C20:0 diOL	0.026 \pm 0.005	0.022 \pm 0.007	0.013 \pm 0.005	0.021 \pm 0.005
C22:0 diOL	0.169 \pm 0.026	0.070 \pm 0.004	0.201 \pm 0.044	0.180 \pm 0.014
Unknowns	0.208 \pm 0.022	0.271 \pm 0.010	0.266 \pm 0.027	0.230 \pm 0.024
Total	4.46 \pm 0.37	4.56 \pm 0.41	4.70 \pm 0.25	4.68 \pm 0.19

Supplemental Table S4. Composition of residual bound lipids in unwounded and wounded leaves of wild-type, *far1-1*, *far4-1*, and *far5-1*Each value is the mean shown in $\mu\text{g}/\text{mg}$ delipidated dry weight of residue \pm SD of five biological replicates.

(-) denotes unwounded leaves, (+) denotes wounded leaves

	WT (-)	WT (+)	<i>far1-1</i> (-)	<i>far1-1</i> (+)	<i>far4-1</i> (-)	<i>far4-1</i> (+)	<i>far5-1</i> (-)	<i>far5-1</i> (+)
Fatty Acids								
C16:0	0.843 \pm 0.114	1.100 \pm 0.034	0.900 \pm 0.190	1.248 \pm 0.179	0.701 \pm 0.128	0.858 \pm 0.210	0.847 \pm 0.089	0.968 \pm 0.149
C18:0	0.100 \pm 0.043	0.120 \pm 0.014	0.107 \pm 0.041	0.136 \pm 0.087	0.061 \pm 0.014	0.086 \pm 0.025	0.091 \pm 0.017	0.126 \pm 0.009
C18:1	0.043 \pm 0.022	0.027 \pm 0.010	0.049 \pm 0.023	0.032 \pm 0.024	0.031 \pm 0.022	0.030 \pm 0.024	0.028 \pm 0.006	0.039 \pm 0.009
C18:2	0.176 \pm 0.112	0.181 \pm 0.043	0.139 \pm 0.046	0.212 \pm 0.087	0.128 \pm 0.018	0.173 \pm 0.083	0.117 \pm 0.048	0.175 \pm 0.010
C18:3	0.301 \pm 0.193	0.281 \pm 0.099	0.283 \pm 0.089	0.349 \pm 0.091	0.225 \pm 0.105	0.243 \pm 0.031	0.231 \pm 0.092	0.303 \pm 0.014
C20:0	0.048 \pm 0.005	0.092 \pm 0.022	0.053 \pm 0.012	0.084 \pm 0.021	0.035 \pm 0.005	0.096 \pm 0.023	0.050 \pm 0.010	0.140 \pm 0.021
C22:0	0.078 \pm 0.009	0.178 \pm 0.034	0.109 \pm 0.027	0.153 \pm 0.026	0.055 \pm 0.011	0.182 \pm 0.054	0.112 \pm 0.036	0.271 \pm 0.030
C23:0	0.030 \pm 0.025	0.032 \pm 0.015	0.030 \pm 0.006	0.027 \pm 0.009	0.025 \pm 0.011	0.026 \pm 0.012	0.036 \pm 0.005	0.031 \pm 0.005
C24:0	0.156 \pm 0.050	0.185 \pm 0.026	0.251 \pm 0.096	0.191 \pm 0.029	0.167 \pm 0.052	0.181 \pm 0.049	0.238 \pm 0.087	0.223 \pm 0.059
C24:1	0.029 \pm 0.012	0.028 \pm 0.011	0.038 \pm 0.015	0.042 \pm 0.008	0.019 \pm 0.006	0.023 \pm 0.009	0.040 \pm 0.010	0.026 \pm 0.010
C25:0	0.030 \pm 0.007	0.037 \pm 0.008	0.047 \pm 0.008	0.036 \pm 0.005	0.030 \pm 0.013	0.036 \pm 0.014	0.035 \pm 0.002	0.034 \pm 0.009
C26:0	0.046 \pm 0.010	0.050 \pm 0.010	0.089 \pm 0.038	0.065 \pm 0.027	0.046 \pm 0.017	0.053 \pm 0.007	0.081 \pm 0.040	0.065 \pm 0.022
C28:0	0.020 \pm 0.005	0.017 \pm 0.004	0.033 \pm 0.018	0.022 \pm 0.010	0.013 \pm 0.004	0.014 \pm 0.003	0.025 \pm 0.012	0.022 \pm 0.014
Dicarboxylic Acids								
C16:0 DCA	0.226 \pm 0.025	0.211 \pm 0.045	0.241 \pm 0.075	0.213 \pm 0.048	0.194 \pm 0.089	0.246 \pm 0.072	0.261 \pm 0.038	0.295 \pm 0.075
C18:0 DCA	0.086 \pm 0.031	0.111 \pm 0.049	0.102 \pm 0.047	0.114 \pm 0.033	0.068 \pm 0.044	0.110 \pm 0.035	0.088 \pm 0.022	0.139 \pm 0.003
C18:1 DCA	0.150 \pm 0.103	0.168 \pm 0.074	0.167 \pm 0.051	0.153 \pm 0.031	0.118 \pm 0.082	0.156 \pm 0.077	0.158 \pm 0.034	0.190 \pm 0.048
C18:2 DCA	0.696 \pm 0.137	0.690 \pm 0.062	0.715 \pm 0.092	0.665 \pm 0.141	0.647 \pm 0.082	0.710 \pm 0.129	0.686 \pm 0.162	0.784 \pm 0.118
ω-Hydroxy Acids								
16:0 ω OH	0.031 \pm 0.011	0.044 \pm 0.006	0.037 \pm 0.004	0.048 \pm 0.014	0.030 \pm 0.006	0.054 \pm 0.009	0.029 \pm 0.002	0.074 \pm 0.018
18:2 ω OH	0.071 \pm 0.034	0.097 \pm 0.032	0.096 \pm 0.011	0.105 \pm 0.009	0.051 \pm 0.029	0.088 \pm 0.052	0.080 \pm 0.018	0.133 \pm 0.015
20:0 ω OH	0.004 \pm 0.005	0.026 \pm 0.006	0.008 \pm 0.003	0.024 \pm 0.008	0.005 \pm 0.002	0.031 \pm 0.010	0.008 \pm 0.002	0.045 \pm 0.007
22:0 ω OH	0.010 \pm 0.006	0.041 \pm 0.009	0.017 \pm 0.006	0.036 \pm 0.008	0.009 \pm 0.005	0.041 \pm 0.014	0.015 \pm 0.001	0.064 \pm 0.002
16:0 diOH	0.087 \pm 0.016	0.069 \pm 0.017	0.100 \pm 0.023	0.088 \pm 0.020	0.095 \pm 0.039	0.071 \pm 0.025	0.097 \pm 0.007	0.079 \pm 0.008
2-Hydroxy Acids								
C16:0-2OH	0.059 \pm 0.033	0.062 \pm 0.019	0.051 \pm 0.011	0.050 \pm 0.008	0.035 \pm 0.004	0.043 \pm 0.002	0.041 \pm 0.014	0.049 \pm 0.010
C20:0-2OH	0.035 \pm 0.026	0.038 \pm 0.018	0.029 \pm 0.011	0.019 \pm 0.006	0.024 \pm 0.013	0.034 \pm 0.005	0.022 \pm 0.013	0.032 \pm 0.014
C22:0-2OH	0.125 \pm 0.047	0.131 \pm 0.021	0.145 \pm 0.074	0.104 \pm 0.022	0.080 \pm 0.022	0.093 \pm 0.009	0.111 \pm 0.042	0.094 \pm 0.053
C23:0-2OH	0.033 \pm 0.019	0.034 \pm 0.013	0.034 \pm 0.004	0.027 \pm 0.003	0.020 \pm 0.005	0.022 \pm 0.007	0.023 \pm 0.006	0.021 \pm 0.009
C23:1-2OH	0.029 \pm 0.003	0.028 \pm 0.007	0.026 \pm 0.006	0.026 \pm 0.014	0.017 \pm 0.008	0.017 \pm 0.006	0.026 \pm 0.010	0.024 \pm 0.027
C24:0-2OH	0.467 \pm 0.087	0.483 \pm 0.113	0.480 \pm 0.148	0.446 \pm 0.068	0.398 \pm 0.123	0.389 \pm 0.027	0.444 \pm 0.141	0.411 \pm 0.182
C24:1-2OH	0.160 \pm 0.068	0.144 \pm 0.023	0.212 \pm 0.100	0.195 \pm 0.037	0.171 \pm 0.073	0.153 \pm 0.044	0.212 \pm 0.055	0.146 \pm 0.063
C25:0-2OH	0.039 \pm 0.026	0.043 \pm 0.020	0.043 \pm 0.008	0.040 \pm 0.006	0.022 \pm 0.011	0.026 \pm 0.009	0.030 \pm 0.006	0.032 \pm 0.014
C25:1-2OH	0.025 \pm 0.014	0.025 \pm 0.003	0.022 \pm 0.005	0.027 \pm 0.013	0.017 \pm 0.015	0.014 \pm 0.014	0.020 \pm 0.003	0.014 \pm 0.024
C26:0-2OH	0.108 \pm 0.069	0.112 \pm 0.037	0.150 \pm 0.047	0.115 \pm 0.037	0.085 \pm 0.034	0.084 \pm 0.010	0.105 \pm 0.045	0.103 \pm 0.055
C26:1-2OH	0.024 \pm 0.010	0.021 \pm 0.006	0.027 \pm 0.010	0.023 \pm 0.002	0.019 \pm 0.018	0.019 \pm 0.010	0.024 \pm 0.003	0.019 \pm 0.015
Fatty Alcohols								
18:0-OH	0.024 \pm 0.006	0.041 \pm 0.003	0.025 \pm 0.012	0.048 \pm 0.022	0.020 \pm 0.003	0.069 \pm 0.029	0.013 \pm 0.004	0.013 \pm 0.004
20:0-OH	0.054 \pm 0.015	0.087 \pm 0.029	0.054 \pm 0.024	0.076 \pm 0.025	0.036 \pm 0.013	0.050 \pm 0.030	0.056 \pm 0.017	0.078 \pm 0.020
22:0-OH	0.034 \pm 0.007	0.055 \pm 0.007	0.029 \pm 0.007	0.028 \pm 0.013	0.028 \pm 0.015	0.050 \pm 0.028	0.041 \pm 0.006	0.082 \pm 0.026
Unknowns	0.182 \pm 0.050	0.172 \pm 0.034	0.258 \pm 0.077	0.235 \pm 0.058	0.166 \pm 0.074	0.185 \pm 0.159	0.188 \pm 0.010	0.274 \pm 0.025
Total	4.88 \pm 1.66	5.28 \pm 0.96	5.34 \pm 1.01	5.58 \pm 1.02	4.02 \pm 1.35	4.78 \pm 1.62	4.80 \pm 0.87	5.49 \pm 0.25

Supplemental Table S5. Sequences of DNA primers used for PCR	
Primer Name	Primer sequence
FAR1-qPCR-F	ACAGCTCATTCGGGAGACAC
FAR1-qPCR-R	GTAACGAGCCGTGAAATCGT
FAR2-qPCR-F	TGGATTTGATGTTGGAAGCA
FAR2-qPCR-R	GGGATCGATTCTGTTTGGTC
FAR3-qPCR-F	ACCGTGGACCAACAAAGAAG
FAR3-qPCR-R	GCAATCAAGTAGCGTATGGTCA
FAR4-qPCR-F	TGCGGTTGAAAAGAAAGGAG
FAR4-qPCR-R	CGGGAATATGAATGGTCGTC
FAR5-qPCR-F	GAGTTGGTGATGAGATTGGTAGAG
FAR5-qPCR-R	CTTCTTAAGCACGTGTGTGACG
FAR6-qPCR-F	TGTGGTGTCCCAGAGTTCAA
FAR6-qPCR-R	TCCAATGGAAAGTCACACAGA
FAR7-qPCR-F	CAGTTTACCATGTCCGGCTCA
FAR7-qPCR-R	CCATTACGTCCGACAAGAGG
FAR8-qPCR-F	GCCAAGCAGAAAGAAGAGGA
FAR8-qPCR-R	AGTGATGAGGCCAGGAATGT
FAR1-Pro-F	AGAGGTGCGACGAAGCATCATTGGAGATGGTC
FAR1-Pro-R	AGAGGATCCTTGAACACAATTGGATTCCATTG
FAR4-Pro-F	AGAGTCGACCCCTTCTTGAAGGTCAAGCCT
FAR4-Pro-R	AGAGGATCCCTGAATGCAATTGGAGTCCAT
FAR5-Pro-F	AGAGTCGACTGAAGTTGATCAGGTTGACAAT
FAR5-Pro-R	AGAGCATCCTTCAACACAATTGAGTTCCATTG
FAR1-RT-F	CTACGTAGTGAGGTTATGGAGATCG
FAR1-RT-R	CGCTTATATACGCGGTTGAGACATG
FAR4-RT-F	CTTGGAATGTCAAGGGCAAAGCTTC
FAR4-RT-R	TGTCCACAGGTATAAGATCAAGGAC
FAR5-RT-F	CGCACAGAGGTATTTGAGAAAGAAC
FAR5-RT-R	CAAGCCCAACATCATATCTTTCGTC
GAPC-RT-F	TCAGACTCGAGAAAGCTGCTAC
GAPC-RT-R	GATCAAGTCGACCACACGG
FAR1-ORF-F	AAAAAGCAGGCTACATAATGGAATCCAATTGTGTTCAATTTCTCGG
FAR1-ORF-R	AGAAAGCTGGGTATTATGTTTAAAGCACATGGGTGATGAGGCCAGGAATGTGGG
FAR3-ORF-F	AAAAAGCAGGCTACATAATGTGACAGAAATGGAGGTCG
FAR3-ORF-R	AGAAAGCTGGGTACTCGAGTTAGAAGACATACTTAAGCAGCCC
FAR4-ORF-F	AAAAAGCAGGCTACATAATGGACTCCAATTGCATTTCAGTTCTCC
FAR4-ORF-R	AGAAAGCTGGGTATTATTTTTGAGTACATAGGTGATGAGGCCGG
FAR5-ORF-F	AAAAAGCAGGCTACATAATGGAATCAATTGTGTTCAATTTCTTCGAAACAAGACG
FAR5-ORF-R	AGAAAGCTGGGCTATCACTTCTTAAGCACGTGTGTGACGAGTCC

Supplemental Table S5 continued. Sequences of DNA primers used for PCR	
Primer Name	Primer sequence
SALK_068605-TDNA-LP	CAAGGTTTGCAGCCTAGTCAC
SALK_068605-TDNA-RP	TGTTACAACACTGTTGCGGTG
SALK_149469-TDNA-LP	TGTTGCAATAAATGAAATGAACAG
SALK_149469-TDNA-RP	TACCTTGCACGACTATGTCCC
SALK_000229-TDNA-LP	TGTATTCATCAAACCAATTGATCC
SALK_000229-TDNA-RP	TTGCGATGGTGAACACTTCC
SALK_147493-TDNA-LP	GTTGACCCGCTTCTTCTCTC
SALK_147493-TDNA-RP	AAACCAAATGTTGAAAGAGAAAAC
SALK_152963-TDNA-LP	TTCTTGCAACGCCTTAGCTG
SALK_152963-TDNA-RP	AAAGGTGGTATATAAAAATTTCTTGTAGC
SALK_070363-TDNA-LP	AAAGAACTCGGAATGGAAAGG
SALK_070363-TDNA-RP	GGGCAAATTAGCTTAAGTACGC
LBb1	GCGTGGACCGCTTGCTGCAACT