

SUPPORTING INFORMATION

Figure S1. Light microscopy of cotyledon tissues from fresh wild type, aged wild type, and aged PLD-KD seeds. Differential interference contrast microscopy was performed on a Zeiss Axioplan 2 IE MOT microscope, and images were processed on Axiovision software version 4.6. Black arrows indicate sign of partial plasmolysis.

Figure S2. Percentage of monounsaturated and polyunsaturated fatty acids from each PL class and TAG pool. The columns represent fresh wild type seeds (black bars), aged wild type seeds (single hatched bars), fresh PLD-KD seeds (white bars), and aged PLD-KD seeds (double hatched bars). All values are mean \pm SD of five biological replicates, and bars with a common lower case letter are not significantly different at $p < 0.05$.

Figure S3. Percentage of monounsaturated and polyunsaturated fatty acids in TAG pool. The columns represent wild type seeds (black bars) and PLD-KD seeds (white bars). All values are mean \pm SD of five biological replicates, and bars with a common lower case letter are not significantly different at $p < 0.05$.

Table S1. Fatty acid analysis of 2-month-old (fresh) and 33-month-old (aged) wild type and PLD-KD seeds by gas chromatography after formation of fatty acid methyl esters from the total lipids. Means were separated by Duncan's multi-range grouping at the $\alpha = 0.05$ ($n = 5$)

	Major fatty acid composition (weight %)				
	Palmitic acid 16:0	Stearic acid 18:0	Oleic acid 18:1	Linoleic acid 18:2	Linolenic acid 18:3
Fresh wild type	11.6 ^b	3.6 ^a	29.2 ^{ab}	46.9 ^{ab}	6.5 ^{ab}
Aged wild type	12.5 ^a	3.4 ^{ab}	20.1 ^b	56.8 ^a	7.2 ^a
Fresh PLD-KD	9.9 ^c	3.2 ^b	33.2 ^a	46.3 ^b	7.4 ^a
Aged PLD-KD	11.2 ^b	3.1 ^b	31.5 ^a	48.3 ^{ab}	6.0 ^b

Fresh

Natural aged

Wild type

Wild type

PLD-KD





