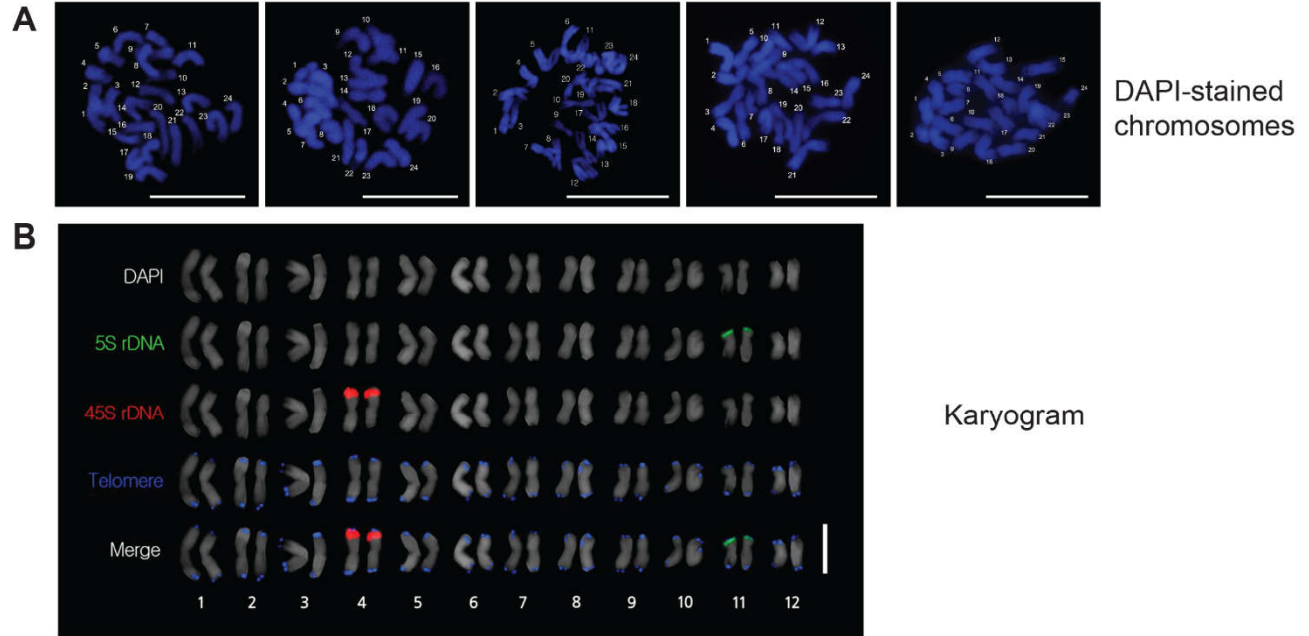


Dempsey WT



Dempsey Regenerants

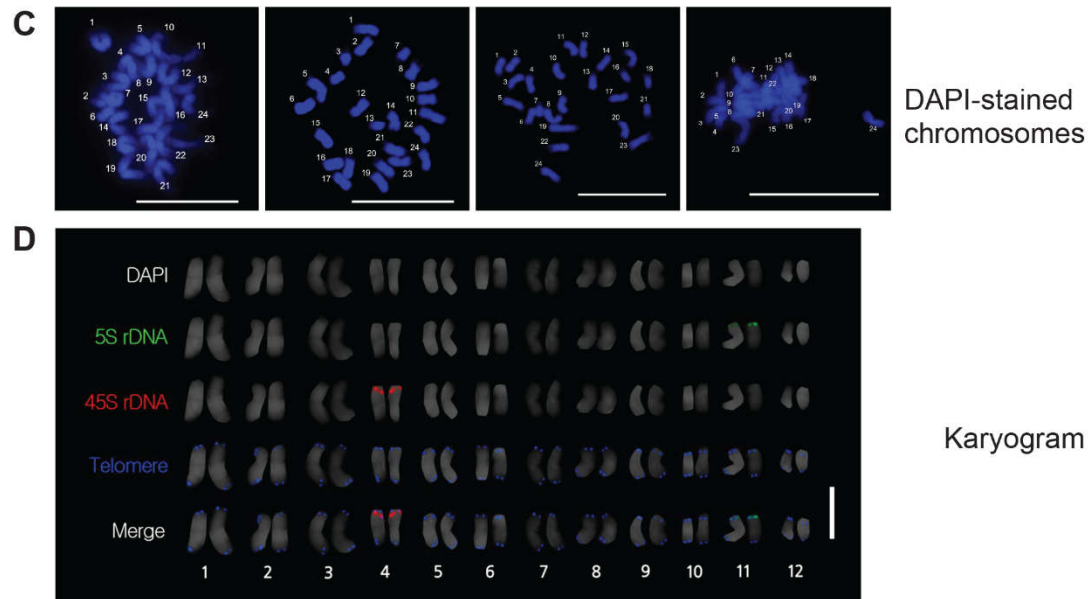


Figure S1. Cytogenetic analysis and karyogram of chromosomes from the 'Dempsey' WT and regenerative (R1). Representative images of DAPI-stained chromosomes from the Dempsey wild type (**A**). Karyogram of chromosomes from the wild-type Dempsey cultivar (**B**). Representative images of DAPI-stained chromosomes from the R1 (**C**). Karyogram of chromosomes from the R1 (**D**); scale bars = 10 μ m. (**A,C**) All specimens exhibited the same number of DAPI-stained chromosomes, $2n = 24$. The numbers 1 through 24 indicate chromosome count. (**B,D**) Karyograms by fluorescence *in situ* hybridization (FISH) in the wild-type and R1. Green, 5S rDNA; Red, 45S rDNA; Blue, Telomeric repeat.



Figure S2. Germination analysis of the 'Dempsey' regenerant (R2). A representative image of nine-day-old 'Dempsey' regenerant R2 seedlings on a wet filter paper, scale bar = 1 mm.

Table S1. The summary of regeneration with three types of 'Dempsey' explants from eight biological replicates.

Biological Replicates	Number of Plant	Types of Explant	Number of Explants	Number of Shooting	Shooting Rate (%)	Number of Rooting	Rooting Rate (%)
#1	2	First Leaf	8	4	50	1	12.5
		Cotyledon	8	1	12.5	0	0
#2	2	First Leaf	9	9	100	1	11.1
		Cotyledon	8	0	0	0	0
#3	20	First Leaf	68	45	66.2	7	10.3
		Cotyledon	80	22	27.5	2	2.5
#4	5	First Leaf	20	20	100	5	25
		Cotyledon	20	6	30	1	5
#5	16	First Leaf	64	48	75	5	7.8
		Cotyledon	64	12	18.8	0	0
		Hypocotyl	32	6	18.8	0	0
#6	4	First Leaf	14	13	92.9	1	7.1
		Cotyledon	16	2	12.5	0	0
		Hypocotyl	8	0	0	0	0
#7	5	First Leaf	10	6	60	2	20
		Cotyledon	28	14	50	1	3.6
		Hypocotyl	10	6	60	1	10
#8	15	First Leaf	41	6	14.6	N.D	N.D
		Cotyledon	61	3	4.9	N.D	N.D
		Hypocotyl	17	4	23.5	N.D	N.D
Total	69	First Leaf	234	151	69.8*	22	13.4*
		Cotyledon	285	60	25.5*	4	3.3*
		Hypocotyl	67	16	19.5*	1	1.6*

* indicates the mean of shooting/rooting rates obtained from the biological replicates.