Table S1. Three-way ANOVA of priming treatments on the 7th days germination percentage for three pepper varieties in different storage conditions

Storage period	Source	SS	df	MS	F	P-value
2 months	**Varieties**	0.6976	2	0.3488	90.66**	5.00×10^{-17}
	Treatments	0.0523	2	0.0262	6.80**	2.50×10^{-3}
	Storage conditions	0.0197	2	0.0099	2.57	0.087
	Varieties × Treatments	0.1071	4	0.0268	6.96**	1.67×10^{-4}
	Varieties × Storage conditions	0.0320	4	0.0080	2.08	0.098
	Treatments × Storage conditions	0.0631	4	0.0158	4.10**	6.12×10^{-3}
	Varieties × Treatments × Storage conditions	0.1248	8	0.0156	4.05**	9.58×10^{-4}
	Error	0.1847	48	0.0038		
4 months	**Varieties**	1.2792	2	0.6396	165.31**	2.91×10^{-23}
	Treatments	0.0230	2	0.0115	2.97	0.060
	Storage conditions	0.0073	2	0.0037	0.94	0.396
	Varieties × Treatments	0.0621	4	0.0155	4.01**	6.54×10^{-3}
	Varieties × Storage conditions	0.0077	4	0.0019	0.50	0.739
	Treatments × Storage conditions	0.0327	4	0.0082	2.11	0.093
	Varieties × Treatments × Storage conditions	0.0546	8	0.0068	1.77	0.105
	Error	0.2012	52	0.0039		
6 months	**Varieties**	0.9737	2	0.4868	158.11**	7.54×10^{-22}

	Treatments	0.2027	2	0.1013	32.91**	9.99×10^{-10}
	Storage conditions	0.0120	2	0.0060	1.95	0.153
	Varieties × Treatments	0.1114	4	0.0279	9.05**	1.58×10^{-5}
	Varieties × Storage conditions	0.0645	4	0.0161	5.23**	1.40×10^{-3}
	Treatments × Storage conditions	0.2052	4	0.0513	16.66**	1.26×10^{-8}
	Varieties × Treatments × Storage conditions	0.2213	8	0.0277	8.98**	1.97×10^{-7}
	Error	0.1478	48	0.0031		
8 months	**Varieties**	0.4346	2	0.2173	91.50**	4.20×10^{-17}
	Treatments	0.1468	2	0.0734	30.90**	2.37×10^{-9}
	Storage conditions	0.7721	2	0.3860	162.54**	4.23×10^{-22}
	Varieties × Treatments	0.0584	4	0.0146	6.15**	4.43×10^{-4}
	Varieties × Storage conditions	0.1480	4	0.0370	15.57**	3.10×10^{-8}
	Treatments × Storage conditions	0.0471	4	0.0118	4.95**	2.00×10^{-3}
	Varieties × Treatments × Storage conditions	0.0898	8	0.0112	4.73**	2.56×10^{-4}
	Error	0.1140	48	0.0024		

Notes: * indicates significance at $p < 0.05$, ** indicates significance at $p < 0.01$.

Table S2. The Tukey multiple comparison test result for the mean separations of 7th days germination percentage during the storage at the 0.05 level

Factors	Levels	2 months	4 months	6 months	8 months
Varieties	**No.63**	72.5 a	78.2 a	74.7 a	11.3 b
	No.73	50.2 c	48.3 c	44.8 c	10.4 b
	No.101	56.7 b	57.8 b	55.9 b	27.8 a
Treatments	**KNO_3**	61.9 a	63.4 a	64.7 a	23.0 a
	PEG	57.3 b	61.1 a	52.4 c	12.3 b
	KNO_3+PEG	59.4 ab	60.3 a	58.2 b	14.9 b
Storage conditions	**Plastic bag (25℃)**	59.9 ab	62.5 a	60.1 a	17.4 b
	Paper bag (25℃)	56.3 b	61.1 a	57.3 a	3.5 c
	Plastic bag (-4℃)	62.2 a	61.4 a	57.7 a	29.1 a

Notes: Means associated with different letters in each column are significantly different.

Table S3. Three-way ANOVA of priming treatments on the final germination percentage for three pepper varieties in different storage conditions

Storage period	Source	SS	df	MS	F	P-value
2 months	**Varieties**	0.70948	2.0000	0.35	96.48**	2.16×10^{-18}
	Treatments	0.063738	2.0000	0.03	8.67**	0.554
	Storage conditions	0.00463	2.0000	0.00	0.6296	0.537
	Varieties × Treatments	0.023591	4.0000	0.01	1.6040	0.187
	Varieties × Storage conditions	0.007915	4.0000	0.00	0.5382	0.708
	Treatments × Storage conditions	0.007566	4.0000	0.00	0.5145	0.725
	Varieties × Treatments × Storage conditions	0.062186	8.0000	0.01	2.1142	0.051
	Error	0.194867	53.0000	0.00		
4 months	**Varieties**	0.830045	2.0000	0.42	147.19**	6.55×10^{-22}
	Treatments	0.018637	2.0000	0.01	3.30*	0.045
	Storage conditions	0.006114	2.0000	0.00	1.0842	0.346
	Varieties × Treatments	0.098542	4.0000	0.02	8.74**	1.89×10^{-5}
	Varieties × Storage conditions	0.011197	4.0000	0.00	0.9928	0.420
	Treatments × Storage conditions	0.022144	4.0000	0.01	1.9634	0.114
	Varieties × Treatments × Storage conditions	0.03713	8.0000	0.00	1.6461	0.135
	Error	0.1438	51.0000	0.00		
6 months	**Varieties**	0.91661	2.0000	0.46	126.34**	6.82×10^{-21}
	Treatments	0.016543	2.0000	0.01	2.2801	0.112
	Storage conditions	0.000602	2.0000	0.00	0.0830	0.920
	Varieties × Treatments	0.018685	4.0000	0.00	1.2877	0.287

	Varieties × Storage conditions	0.01886	4.0000	0.00	1.2997	0.282
	Treatments × Storage conditions	0.025382	4.0000	0.01	1.7492	0.153
	Varieties × Treatments × Storage conditions	0.037335	8.0000	0.00	1.2865	0.271
	Error	0.192267	53.0000	0.00		
8 months	**Varieties**	0.390327	2.0000	0.20	44.74**	3.91×10^{-11}
	Treatments	0.080226	2.0000	0.04	9.20**	4.87×10^{-4}
	Storage conditions	0.581511	2.0000	0.29	66.66**	9.29×10^{-14}
	Varieties × Treatments	0.284139	4.0000	0.07	16.29**	3.96×10^{-8}
	Varieties × Storage conditions	0.560256	4.0000	0.14	32.11**	2.83×10^{-12}
	Treatments × Storage conditions	0.215354	4.0000	0.05	12.34**	1.01×10^{-6}
	Varieties × Treatments × Storage conditions	0.599316	8.0000	0.07	17.17**	5.43×10^{-11}
	Error	0.1832	42.0000	0.00		

Notes: * indicates significance at $p < 0.05$, ** indicates significance at $p < 0.01$.

Table S4. The Tukey multiple comparison test result for the mean separations of germination percentage during the storage at the 0.05 level

Factors	Levels	2 months	4 months	6 months	8 months
Varieties	**No.63**	83.7 a	84.2 a	82.5 a	48.1 b
	No.73	63.9 b	63.8 b	59.8 b	57.1 a
	No.101	63.5 b	61.5 b	60.3 b	40.4 c
Treatments	**KNO_3**	68.9 b	70.1 a	69.4 a	45.8 b
	PEG	74.7 a	71.0 a	66.7 a	50.1 ab
	KNO_3+PEG	67.9 b	68.2 a	66.7 a	51.8 a

Storage conditions	**Plastic bag (25℃)**	71.3 a	71.7 a	67.7 a	53.0 b
	Paper bag (25℃)	69.5 a	70.1 a	67.5 a	34.8 c
	Plastic bag (-4℃)	70.5 a	68.5 a	67.7 a	58.6 a

Notes: Means associated with different letters in each column are significantly different.

Table S5. Different growth indexes of primed pepper seeds in different storage conditions over time

Indexes	**Varieties**		**KNO_3 priming**			**PEG priming**			**KNO_3 and PEG priming**		
		Storage period (months)	**Plastic bag (25℃)**	**Paper bag (25℃)**	**Plastic bag (-4℃)**	**Plastic bag (25℃)**	**Paper bag (25℃)**	**Plastic bag (-4℃)**	**Plastic bag (25℃)**	**Paper bag (25℃)**	**Plastic bag (-4℃)**
7th GP (%)	**No.63**	**0**	81.3 a	81.3 a	81.3 a	28.0 b	28.0 c	28.0 b	82.0 a	82.0 a	82.0 a
		2	84.0 a	87.0 a	76.7 a	66.0 a	45.3 b	79.3 a	75.3 a	70.0 a	76.7 a
		4	81.3 a	83.3 a	76.7 a	76.7 a	75.3 a	81.3 a	77.3 a	78.0 a	74.0 a
		6	81.3 a	81.3 a	86.7 a	75.3 a	77.0 a	27.0 b	71.3 a	74.0 a	83.3 a
		8	2.0 b	0 b	40.0 b	2.7 c	0 d	19.3 b	9.0 b	0 b	34.0 b
	No.73	**0**	58.0 a	58.0 a	58.0 a	48.0 a	48.0 a	48.0 a	58.0 a	58.0 a	58.0 a
		2	53.3 a	48.0 a	55.3 a	46.7 a	55.3 a	50.0 a	48.7 a	50.0 a	42.0 b
		4	56.0 a	51.3 a	44.7 ab	46.7 a	54.7 a	53.3 a	44.7 a	31.0 b	46.7 ab
		6	50.0 a	51.3 a	48.7 ab	46.0 a	42.7 b	46.0 a	41.0 a	33.3 b	42.0 b
		8	17.3 b	2.7 b	36.0 b	10.0 b	0 c	18.7 b	8.7 b	1.33 c	7.33 c

	No.101	**0**	63.3 a	63.3 a	63.3 a	56.7 a	56.7 a	56.7 a	55.3 a	55.3 a	55.3 a
		2	59.3 a	53.3 a	56.0 ab	58.0 a	51.0 a	64.0 a	56.0 a	59.3 a	54.0 a
		4	62.7 a	56.7 a	58.0 ab	56.7 a	48.7 a	56.7 a	59.0 a	60.7 a	61.3 a
		6	56.7 a	58.0 a	70.0 a	56.0 a	52.7 a	46.7 ab	58.7 a	52.0 a	57.3 a
		8	39.3 b	28.0 b	46.0 b	29.3 b	6.0 b	31.0 b	35.3 b	0.7 b	36.0 b
GP (%)	**No.63**	**0**	86.0 a	86.0 a	86.0 a	84.0 a	84.0 a	84.0 a	84.7 a	84.7 a	84.7 a
		2	81.3 a	88.0 a	82.7 a	86.7 a	80.7 a	89.3 a	86.0 a	75.3 a	83.3 a
		4	85.3 a	85.3 a	84.0 a	85.3 a	82.7 a	84.7 ab	83.3 a	85.3 a	81.3 a
		6	82.7 a	82.7 a	87.3 a	83.3 a	80.7 a	78.0 b	80.0 a	78.7 a	89.3 a
		8	34 b	6.7 b	72.7 a	78.0 a	11.3 b	90.0 a	34.0 b	59.0 b	65.3 b
	No.73	**0**	70.7 a	70.7 a	70.7 a	69.3 a	69.3 a	69.3 a	69.3 a	69.3 a	69.3 a
		2	60.0 b	54.7 b	66.0 a	71.3 a	74.0 a	68.0 a	60.0 ab	63.3 a	57.3 ab
		4	72.0 a	65.0 ab	54.7 bc	68.0 a	76.7 a	68.0 a	53.0 b	54.7 ab	58.7 ab
		6	62.0 b	63.3 ab	60.7 ab	59.3 a	63.3 a	60.7 a	57.3 b	58.0 a	50.0 b
		8	46.0 c	5.0 c	49.0 c	40.0 b	32.0 b	30.0 b	59.3 ab	43.0 b	45.3 b
	No.101	**0**	65.3 a	65.3 a	65.3 a	72.7 a	72.7 a	72.7 a	64.7 a	64.7 a	64.7 a
		2	66.0 a	60.7 a	60.7 a	64.7 a	68.0 ab	67.0 ab	66.0 a	60.7 ab	59.3 a
		4	66.0 a	61.3 a	61.3 a	60.0 a	55.3 b	58.7 bc	63.0 a	62.7 a	65.3 a
		6	58.7 a	59.3 a	65.3 a	61.3 a	63.3 ab	50.7 c	63.3 a	57.3 ab	60.7 a
		8	57.3 a	58.7 a	58.0 a	66.0 a	57.3 ab	53.3 bc	43.3 a	56.7 b	45.3 a

Notes: Means associated with different letters in the same cultivar of each index denote the difference between storage duration of a storage condition at the 5% level according to the Tukey test.