

# Winter Survival of Peach Fruit Buds at Urbana, Illinois

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Winter cold damage to fruit buds is a constant threat to peach production in the Midwest. Spring freezes occasionally affect peach crops in this area, but winter injury is the major cause of losses.

The test trees were located at the University of Illinois Pomology Research Center at Urbana-Champaign. Urbana lies approximately 100 miles north of the northern limits of the commercial peach growing area in Illinois. The more severe cold stress provides ideal conditions for fruit bud

survival studies.

Five healthy terminal or lateral shoots 35 to 45 cm in length were selected from trees of each variety. Selections were made from the periphery of the trees approximately 6 feet above ground level. The shoots were measured and the fruit buds cut open to determine their condition. Results were expressed as the number of live fruit buds per meter of shoot growth.

The coldest temperatures recorded at Urbana and the date they occurred are given in table 1.

Table 1. Recorded temperatures at Urbana, Illinois. Re: Fruit Buds.

	Nov.		Dec.		Jan.		Feb.	
	Temp.	Date	Temp.	Date	Temp.	Date	Temp.	Date
Nov. 73 - Feb. 74	21	10	-7	22	-9	12	8	4
Nov. 74 - Feb. 75	22	15	13	9	7	13	-6	9
Nov. 75 - Feb. 76	19	28	5	18	-8	8	-2	2

  

Year planted	Weeks before Elberta	Cultivar	Live buds per meter			
			1974 Mar. 22	1975 Mar. 6	1976 Mar. 26	3-year average
1971	3-4	Reliance	42	57	42	47
1971	1-2	Ozark	29	37	36	34
1970	3-4	Redhaven	25	42	20	29
1972	0-1	Belle of Georgia	21	36	28	28
1972	3-4	Harbrite	26	41	17	28
1972	3-4	Raritan Rose	18	39	27	28
1972	6-7	Collins	17	40	25	27
1971	0-1	Madison	35	24	20	26
1971	3-4	Comanche	24	18	22	21
1972	5-6	Prairie Dawn	14	25	18	19
1971	5-6	Harbelle	17	23	13	18
1972	3-4	Harrow 4219	14	21	16	17
1971	1-2	Canadian Harmony	10	13	18	14
1970	0	Redskin	20	15	7	14
1971	2-3	Colora	15	7	15	12
1972	3-4	Harrow 2091	8	5	21	11
1971	0	Elberta	9	5	14	9
1973	3-4	Harken		4	13	
1974	0	Biscoe			28	
1974	4-5	Pekin			14	
1974	3-4	Norman			13	

1974 A 5°F temperature on March 25 killed all fruit buds on all varieties. No bloom and no fruit.

1975 The spring was late and peaches bloomed late. No frosts occurred during or after bloom. Most varieties required mechanical thinning.

1976 Warmer than normal February and March caused peaches to bloom 10 days early. Several frosts and freezes occurred during and after bloom. Elberta and Redskin had about half a crop. Reliance, Redhaven, Collins, Belle of Georgia, Ozark, Harbelle, Comanche, Harbrite, Raritan Rose, Prairie Dawn and Madison required mechanical thinning.

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