

Recording Phenological Data

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Phenological data have been compiled for four years at the Dominion Laboratories of Plant Pathology situated at Winnipeg, Saskatoon, and Edmonton. The 1939 records were collected by B. Peturson, R.C. Russell and M.W. Cormack.

Aided by the experience gained in the past few years, we are standardizing our methods of conducting this work. Perhaps the two rules of most importance to follow in future are to choose plants which can be observed almost daily and to make the observations of each species at the same spot every year, insofar as this is possible. We are using species of plants specially suited to the purpose. Certain species are observed at all three places, but it has been found necessary to use others which are common at only one or two of the points.

In the first column under each place in Table 1 (see page xi) are shown the dates on which the plants were first seen in flower. In the second column figures show how many days earlier or later than the average this was. The average dates of flowering are based on data taken in 1936, 1937, and 1938. A plus sign before the figure in the second column means that the plant was seen later than usual, while a minus sign means that it bloomed this year at an earlier date than usual. A capital A means that it bloomed at the average time.

Supplementing the phenological data we have recorded the time of sowing, emergence, heading and harvesting of early-sown Thatcher wheat at each place. As in the table of phenological data these dates have been compared with the average for the past three years. These are presented in Table 2.

Table 2. Dates of seeding, emergence, heading and harvesting of early-sown Thatcher wheat at Winnipeg, Saskatoon and Edmonton in 1939.

	Winnipeg		Saskatoon		Edmonton	
	1939	Av. 1936-38	1939	Av. 1936-38	1939	Av. 1936-38
Seeded	18/4	----	28/4	17/4	17/4	28/4
Emerged	28/4	----	7/5	4/5	29/4	10/5
Headed	21/6	----	1/7	26/6	26/6	1/7
Harvested	30/7	----	6/8	26/7	7/8	12/8

The phenological data indicate that the spring season of 1939 was relatively early at Winnipeg. At Saskatoon it was relatively early up to the middle of June, but after that, owing to cool temperature and abundant moisture in June, it was relatively late. At Edmonton the trend of the season was much the same up to the end of June. After this date, although we have plenty of records for 1939 we lack data concerning the previous seasons with which to compare them.

Table 1. Summary of phenological data taken at Winnipeg, Saskatoon and Edmonton in 1939.

Species	Winnipeg		Saskatoon		Edmonton	
	a	b	a	b	a	b
<i>Pulsatilla ludoviciana</i>			14/4	-3	17/4	-12
<i>Populus tremuloides</i>	24/4	-2	23/4	+3	21/4	-1
<i>Acer negundo</i>	1/5	-6	28/4	-10	27/4	-4
<i>Phlox hoodii</i>			24/4	-4		
<i>Betula papyrifera</i>	4/5	-9	2/5	-9	1/5	-6
<i>Amelanchier alnifolia</i>	8/5	-9	7/5	-6	6/5	-8
<i>Prunus americana</i>	7/5	-9				
<i>Thermopsis rhombifolia</i>			1/5	-12		
<i>Crataegus coccinea</i>	18/5					
<i>Hierochloa odorata</i>	18/5	-2	12/5	-4		
<i>Prunus pennsylvanica</i>			14/5	-6	10/5	-6
<i>Viola canadensis</i>			7/5	-8	18/5	
<i>Prunus melanocarpa</i>			22/5		19/5	
<i>Prunus virginiana</i>	21/5					
<i>Smilacina stellata</i>	19/5	-6	22/5	+2	24/5	+9
<i>Svida sp. (Cornus sp.)</i>	28/5	-2	22/5	-8	24/5	
<i>Quercus macrocarpa</i>	27/5	-1				
<i>Elaeagnus commutata</i>			31/5	+1	29/5	-2
<i>Viburnum lentago</i>	1/6	-2				
<i>Viburnum trilobum</i>	8/6	-4			3/6	
<i>Anemone canadensis</i>	7/6	-4	4/6	-4	16/6	
<i>Lonicera glaucescens</i>					6/6	
<i>Achillea sp.</i>	30/6		2/6	-9	22/6	+2
<i>Rosa (alcea?)</i>			19/6	+1		
<i>Galium boreale</i>			8/6		10/6	
<i>Bromus inermis</i>	20/6	A	21/6	A	29/6	+10
<i>Gaillardia aristata</i>	19/6					
<i>Agrimonia striata</i>					26/6	
<i>Hedysarum americanum</i>			2/6	-9		
<i>Symphoricarpos occidentalis</i>	1/7	+7			3/7	
<i>Campanula petiolata</i>			27/6	+7		
<i>Phleum pratense</i>					5/7	
<i>Lactuca pulchella</i>	15/6		11/7	+3	15/7	
<i>Chamaenerion spicatum</i>					8/7	
<i>Spiraea alba</i>			5/7	+3		
<i>Solidago canadensis</i>					14/7	
<i>Steironema ciliatum</i>	15/6?	-19?	12/7	+7		
<i>Chrysopsis hirsutissima</i>			4/7			
<i>Grindelia perennis</i>			23/7	+3		
<i>Oligoneuron canescens</i>			23/7	+1		
<i>Aster crassulus (white)</i>			14/7		2/8	
<i>Aster laevis (purple)</i>			17/7	-21	5/8	
<i>Cirsium (lanceolatum?)</i>			12/7	-2		