Flowering Sequence of a Local Flora[1]

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A study of the flowering dates of native plants has been conducted in the Swift Current, Saskatchewan, district in conjunction with range management investigations. The objects of the study were to determine the pattern of regularity of flowering dates of plants from year to year, and to assess the influence of weather on the development of species. The information obtained has been tested to forecast dates of grazing readiness of native rangelands. This report summarizes dates of flowering records for 145 species.

Two reports of flowering dates of Northern Great Plains flora have been published. Criddle (1927) listed some 400 species from the vicinity of Treesbank, Manitoba, and Stevens (1956) published a list of 170 weedy plants growing in North Dakota. Both of these describe phenological observations near the eastern boundary of the Northern Great Plains and naturally the results presented are expressions of local climatic factors. Criddle presented his data as a matter of botanical interest, whereas Stevens was concerned primarily with flowering dates in relation to weed control.

Methods and Presentation

Records of flowering dates of plants were noted along a two-mile transect between the Experimental Farm headquarters and the bench lands to the south. The transect covers two soil types—eroded and Wood mountain (Mitchell, Moss, and Clayton, 1944), and a vegetation ranging from paludose to that indicating semi-aridity. Weekly records were maintained of all species in flower along this transect. These data were recorded to show dates of first flowering, length of flowering season, and dates of latest bloom, and are summarized in Table 1.

By columns the data presented in Table 1 refer to the following points:

1. Sequence number from earliest to latest by mean date of flowering.
2. Common names of species after Budd (1957).
3. Scientific names of species, after Budd (1957).
4. Number of days after first flowering of crocus anemone *(Anemone patens)* to commencement of flowering of species.
5. Number of years of record for species.
6. Mean date of first flowering.
7. Earliest date of first flowering by day, month, and year.
8. Latest date of first flowering by day, month, and year.
9. Latest date recorded while still in flower.
10. Mean length of flowering period in days.

Date of flowering was determined by the full opening of the petals to expose stamens and pistil. Multiflowered plants were considered to be in flower when the first florets bloomed. Grasses were classified as flowering when stamens were exerted.

Discussion

Crocus anemone is the first plant to bloom in the locality and thus provides a convenient gauge of the commencement of growth for other plants. It is followed closely by leafy musineon, dandelion, and moss phlox, and together these form the very early flowering group.

It is of particular interest that there is little association between plant families and the early-season flowering character, for nearly as many families as species occur amongst the first 15 listed. On the other hand there is a marked association between plant families and the late-season flowering habit, as 12 of the last 15 species listed are members of the composite family. Only one grass, little bluestem, is listed amongst the last 15 recorded, and as it is a southern species near its north-west boundary, its late blooming habit is not unnatural.

Column 9, "Mean Length of Flowering Period", presents information relating to the length of flowering of certain weeds and potential ornamentals. Amongst the potential ornamentals with long-flowering periods by common name and list numbers (columns 2 and 1 respectively) are winter fat #60, three-flowered avens #13, Wood's rose #59, graceful cinquefoil #83, silver-leaf psoralea #104, wild mint #110, wooly yarrow #64, gaillardia #72, golden aster #95, and cone-flower #101, as well as others. It is believed that gardeners interested in native plant borders or beds will find plants in this list which would present a colorful display throughout much of the year.

The long-flowering period of certain weeds is an important consideration in relation to their invasion and control. The dandelion #3, and goatsbeard #52, with a 113- and a 95-day flowering period, respectively, are two weeds which invade and colonize unworked stubble, abandoned

[1] *Contribution from the Research Service, Canada Dept. of Agriculture, Swift Current, Sask., Canada.*

Table 1. Flowering data for native species at the Experimental Farm, Swift Current, Saskatchewan. (Species listed in order of first flowering date.)

Plant No.	Common Name	Species (Varietal names omitted)	Days after *Anemone patens*	Years recorded	First Flowering Date			Latest Date in Flower	Mean Flowering Period in Days
					Mean Date	Earliest Date and Year	Latest Date and Year		
1	Crocus anemone	*Anemone patens*	1	13	April 20	Apr. 6/52	May 7/54	June 9	25
2	Leafy musineon	*Musineon divaricatum*	7	11	April 28	Apr. 13/56	May 14/54	June 29	37
3	Dandelion	*Taraxacum officinale*	9	10	April 26	Apr. 7/46	May 20/50	Oct. 14	131
4	Moss phlox	*Phlox hoodii*	9	13	April 30	Apr. 11/46	May 11/50	July 7	36
5	Prairie buttercup	*Ranunculus rhomboideus*	16	13	May 3	Apr. 14/46	May 24/44	June 14	30
6	Early cinquefoil	*Potentilla concinna*	17	12	May 7	Apr. 27/49	May 20/50	June 20	29
7	Pygmy flower	*Androsace septentrionalis*	18	9	May 6	Apr. 14/55	May 26/46	June 29	27
8	Thread-leaved sedge	*Carex filifolia*	18	7	May 7	Apr. 25/46	May 25/54	June 19	30
9	Golden bean	*Thermopsis rhombifolia*	20	13	May 10	Apr. 25/46	May 19/45	July 16	50
10	Cushion milk-vetch	*Astragalus triphyllus*	21	10	May 10	Apr. 28/46	May 20/50	June 12	25
11	Low sedge	*Carex eleocharis*	22	9	May 10	Apr. 26/52	May 25/54	June 19	32
12	Sand bladder-pod	*Lesquerella arenosa*	22	10	May 11	Apr. 25/46	May 21/45	June 26	32
13	Three-flowered avens	*Geum triflorum*	23	13	May 13	Apr. 24/46	May 25/54	Aug. 1	62
14	Early blue violet	*Viola adunca*	28	9	May 16	May 1/52	May 25/54	June 19	20
15	Smooth blue beardtongue	*Pentstemon nitidus*	29	5	May 15	May 1/52	May 31/53	——	—
16	Nuttall's yellow violet	*Viola nuttallii*	29	11	May 19	May 2/46	May 30/55	June 12	14
17	Reflexed rock-cress	*Arabis holboellii*	29	7	May 21	May 1/52	June 7/55	June 22	—
18	Shooting star	*Dodecatheon cylindrocarpum*	29	7	May 22	May 12/49	May 3/44	——	—
19	Prairie onion	*Allium textile*	30	11	May 21	May 1/52	June 3/45	July 14	33
20	Saskatoon	*Amelanchier alnifolia*	31	10	May 20	May 1/52	June 5/45	July 19	16
21	Early locoweed	*Oxytropis macounii*	31	9	May 21	May 8/46	May 29/47	Aug. 9	35
22	Sandberg's bluegrass	*Poa secunda*	32	4	May 21	May 10/52	June 5/53	——	—
23	Pale comandra	*Comandra pallida*	32	9	May 21	May 1/52	May 30/55	July 12	30
24	Wood whitlow-grass	*Draba nemorosa*	33	2	May 22	Apr. 30/47	June 12/53	——	—
25	Field chickweed	*Cerastium arvense*	35	13	May 25	May 14/51 & 52	June 7/45	July 16	41
26	Wild strawberry	*Fragaria glauca*	35	8	May 25	May 15/52	June 5/53	June 20	20
27	Narrow-leaved milkvetch	*Astragalus pectinatus*	37	13	May 27	May 11/49	June 6/45 & 55	July 12	31
28	Flixweed	*Descurainia sophia*	37	7	May 30	May 17/52	June 5/56	July 31	—
29	Western blue-bur	*Lappula redowskii*	37	3	May 30	May 20/48	June 12/54	——	—
30	Silverweed	*Potentilla anserina*	39	7	May 29	Apr. 25/46	June 18/51	——	—
31	Small everlasting	*Antennaria microphylla*	39	9	May 29	May 13/52	June 8/56	July 7	35
32	Star-flowered Solomon's seal	*Smilacina stellata*	39	7	May 30	May 18/49	June 15/45	June 19	17
33	Cut-leaved anemone	*Anemone multifida*	41	5	May 29	May 17/52	June 5/54	June 26	16
34	Puccoon	*Lithospermum angustifolium*	41	9	May 30	May 16/34	June 6/47 & 55	June 26	13
35	Crow-foot violet	*Viola pedatifida*	41	3	June 1	May 16/52	June 12/54	June 19	12
36	Narrow-leaved vetch	*Vicia sparsifolia*	41	10	June 1	May 15/37	June 15/45	Aug. 9	45
37	Clustered oreocarya	*Oreocarya glomerata*	41	8	June 2	May 17/34	June 13/47	July 27	41

Table 1. Continued.

Plant No.	Common Name	Species (Varietal names omitted)	Days after *Anemone patens*	Years recorded	First Flowering Date			Latest Date in Flower	Mean Flowering Period in Days
					Mean Date	Earliest Date and Year	Latest Date and Year		
38	Caragana	*Caragana arborescens*	42	4	June 2	May 24/56	June 12/54	June 20	13
39	Colorado rubber plant	*Hymenoxys richardsonii*	42	13	June 2	May 19/49	June 15/45	July 27	44
40	Low cinquefoil	*Potentilla plattensis*	43	4	June 1	May 24/56	June 19/52	——	22
41	Purple milkvetch	*Astragalus goniatus*	43	12	June 2	May 17/52	June 12/54	July 12	37
42	Death camas	*Zygadenus gramineus*	44	11	June 2	May 19/49	June 10/47	June 30	30
43	Heart-leaved alexanders	*Zizia aptera*	44	10	June 4	May 20/47	June 19/54	July 19	32
44	Sweet grass	*Hierochloe odorata*	45	6	June 2	May 17/52	June 22/51	July 14	28
45	Lewis' wild flax	*Linum lewisii*	48	8	June 5	May 19/52	June 19/54	July 27	33
46	Creeping spearwort	*Ranunculus reptans*	50	3	June 14	May 12/54 & 56	July 19/53	Oct. 9	—
47	Shining arnica	*Arnica fulgens*	50	8	June 9	May 28/51	June 14/55	July 12	—
48	Blue-eyed grass	*Sisyrinchium angustifolium*	51	11	June 8	May 28/46	June 18/56	July 21	28
49	White beard-tongue	*Penstemon albidus*	51	11	June 9	May 17/34	June 22/45 & 47	July 17	32
50	Ground plum	*Astragalus succulentus*	52	2	June 4	June 1/56	June 6/55	——	—
51	Silver-berry	*Elaeagnus commutata*	52	10	June 8	May 25/49	June 26/54	June 29	14
52	Goatsbeard	*Tragopogon dubius*	52	10	June 10	May 26/52	June 26/54	Sept. 27	95
53	Yellow umbrella plant	*Eriogonum flavum*	52	8	June 14	June 3/45	June 26/54	July 31	33
54	Slender beard-tongue	*Pentstemon procerus*	53	10	June 12	May 27/36	June 27/56	July 23	16
55	Silvery groundsel	*Senecio canus*	54	8	June 9	May 19/49	July 10/46	July 27	34
56	Prairie rocket	*Erysimum parviflorum*	54	10	June 10	May 27/46	July 14/50	Sept. 20	51
57	Canada anemone	*Anemone canadensis*	54	9	June 12	June 5/56	June 22/51	Aug. 2	47
58	Nuttall's atriplex	*Artiplex nuttallii*	54	5	June 13	June 5/54	July 27/51	——	—
59	Wood's rose	*Rosa woodsii*	55	13	June 14	May 24/34	June 30/50	Sept. 9	62
60	Winter-fat	*Eurotia lanata*	55	5	June 27	June 8/56	July 14/52	Aug. 16	45
61	Scarlet mallow	*Malvastrum coccineum*	56	13	June 16	May 27/46	June 28/55	Aug. 24	46
62	Two-grooved milkvetch	*Astragalus bisulcatus*	57	8	June 13	May 31/49	July 6/54	Aug. 14	45
63	Alum root	*Heuchera richardsonii*	57	9	June 17	June 4/55	June 30/50	Aug. 19	37
64	Wooly yarrow	*Achillea lanulosa*	57	10	June 19	May 28/46	June 30/50	Sept. 23	78
65	Scarlet gaura	*Gaura coccinea*	58	10	June 17	May 27/34	June 28/55	Aug. 18	44
66	Creeping spike-rush	*Eleocharis palustris*	58	5	June 18	June 8/56	June 28/55	——	—
67	Baltic rush	*Juncus balticus*	58	3	June 19	June 7/52	Aug. 2/54	Aug. 15	—
68	Long-stalked stitchwort	*Stellaria longipes*	59	6	June 12	June 1/56	July 21/52	Aug. 9	48
69	Northern bedstraw	*Galium boreale*	59	11	June 15	June 4/36	July 14/50	Aug. 3	37
70	Smooth fleabane	*Erigeron glabellus*	60	9	June 13	June 8/56	July 14/56	Sept. 27	78
71	Macoun's buttercup	*Ranunculus macounii*	60	4	June 23	June 18/56	June 28/55	Sept. 27	—
72	Gaillardia	*Gaillardia aristata*	64	10	June 23	June 10/34	July 6/54	Aug. 22	40
73	Purple cactus	*Mamillaria vivipara*	64	12	June 24	June 6/47	July 19/54	July 28	12
74	Purple milkvetch	*Astragalus flexuosus*	65	6	June 23	June 18/46 & 56	July 5/51	Aug. 2	35
75	Dwarf yellow flax	*Linum compactum*	66	7	June 25	June 10/36	July 16/34	Sept. 7	51
76	Narrow-leaved dock	*Rumex mexicanus*	67	5	June 15	June 5/54	July 20/55	——	—
77	Lilac-flowered beardtongue	*Pentstemon gracilis*	67	10	June 26	June 17/46 & 50	July 6/54	Aug. 19	32
78	Toothed iron plant	*Haplopappus nuttallii*	68	5	June 25	May 31/52	July 6/54	Aug. 11	39
79	Narrow-leaved collomia	*Collomia linearis*	69	4	June 25	June 5/44	July 10/53	Aug. 7	—

Table 1. Continued.

Plant No.	Common Name	Species (Varietal names omitted)	Days after *Anemone patens*	Years recorded	First Flowering Date			Latest Date in Flower	Mean Flowering Period in Days
					Mean Date	Earliest Date and Year	Latest Date and Year		
80	Ascending milkvetch	*Astragalus striatus*	69	6	June 27	June 12/52	July 19/54	——	15
81	False dandelion	*Agoseris scorzoneraefolia*	69	9	June 28	June 14/48	July 14/50	Sept. 7	42
82	Hare-bell	*Campanula rotundifolia*	69	11	June 29	May 28/38	July 22/50	Sept. 8	51
83	Graceful cinquefoil	*Potentilla gracilis*	69	7	June 30	June 19/54	July 14/50	Sept. 8	55
84	Reed canary grass	*Phalaris arundinacea*	69	3	July 6	June 27/56	July 12/54	——	—
85	Blue-bur	*Lappula echinata*	71	5	June 28	May 25/37	July 16/56	July 19	—
86	White cinquefoil	*Potentilla arguta*	72	7	July 2	June 27/56	July 14/50	Sept. 8	44
87	Western snowberry	*Symphoricarpos occidentalis*	72	9	July 3	June 20/52	July 14/50	Aug. 31	54
88	Yellow sweet clover	*Melilotus officinalis*	73	7	June 22	June 16/44	July 14/52	Oct. 16	81
89	Prickly pear	*Opuntia polyacantha*	73	10	July 1	June 13/48	July 12/54	July 19	12
90	White sweet clover	*Melilotus alba*	73	5	July 2	June 18/44	July 12/54	Oct. 16	87
91	Yellow avens	*Geum aleppicum*	76	3	July 5	June 28/55	July 12/54	——	—
92	Common nettle	*Urtica procera*	77	6	July 5	June 20/55	July 27/51	Aug. 11	—
93	Prairie cinquefoil	*Potentilla pensylvanica*	77	5	July 7	June 19/53	July 27/51	Aug. 16	36
94	Timothy	*Phleum pratense*	77	4	July 7	June 28/52	July 23/54	——	—
95	Golden aster	*Chrysopsis villosa*	79	7	July 7	June 10/37	July 21/52	Sept. 27	68
96	Slough grass	*Beckmannia syzigachne*	80	5	July 10	June 27/56	Aug. 4/51	Sept. 9	
97	Wavy-leaved thistle	*Cirsium undulatum*	81	4	July 9	June 30/52	July 16/56	——	66
98	Rough cinquefoil	*Potentilla norvegica*	81	3	July 12	July 6/56	July 21/52	——	—
99	Fireweed	*Epilobium angustifolium*	82	6	July 9	July 3/46	July 19/54	Aug. 29	56
100	Evening primrose	*Oenothera biennis*	82	4	July 10	June 28/34	July 16/56	Sept. 26	52
101	Coneflower	*Ratibida columnifera*	82	8	July 13	June 16/34	July 27/53	Oct. 16	66
102	California allocarya	*Allocarya californica*	82	4	July 13	June 19/54	July 27/53	Sept. 14	39
103	Wormseed mustard	*Erysimum cheiranthoides*	83	4	July 10	June 29/53	July 21/52	Sept. 14	28
104	Silver-leaf psoralea	*Psoralea argophylla*	83	8	July 13	June 22/37	July 28/50	Sept. 23	59
105	Skeleton weed	*Lygodesmia juncea*	84	6	July 11	June 22/37	July 23/54	Sept. 19	60
106	Canada thistle	*Cirsium arvense*	84	4	July 13	July 5/52	July 19/54	Sept. 23	67
107	Purple prairie-clover	*Petalostemon candidus*	85	6	July 12	June 28/34	Aug. 5/50	Sept. 15	37
108	Wild licorice	*Glycyrrhiza lepidota*	85	5	July 14	June 28/34	July 26/52	Aug. 24	37
109	Spiny iron-plant	*Haplopappus spinulosus*	86	8	July 16	June 19/46	Aug. 5/50	Oct. 14	60
110	Wild mint	*Mentha arvensis*	86	6	July 17	June 27/56	Aug. 5/50	Sept. 14	53
111	Low goldenrod	*Solidago missouriensis*	86	5	July 20	July 14/50	July 27/53	Sept. 8	28
112	Fringed loosestrife	*Lysimachia ciliata*	88	4	July 16	July 10/53	July 23/54	Aug. 29	31
113	Marsh hedge nettle	*Stachys palustris*	88	5	July 17	July 5/56	Aug. 8/51	Sept. 14	40
114	Cat-tail	*Typha latifolia*	89	4	July 17	July 5/56	Aug. 2/54	Aug. 15	—
115	Gumweed	*Grindelia perennis*	91	5	July 27	June 10/37	Aug. 3/56	Oct. 16	49
116	Purple prairie-clover	*Petalostemon purpureus*	92	8	July 21	June 28/34	Aug. 5/50	Sept. 15	37
117	Dotted blazing-star	*Liatris punctata*	93	7	July 23	July 3/44	Aug. 11/51	Sept. 27	40

Table 1. Continued.

Plant No.	Common Name	Species (Varietal names omitted)	Days after *Anemone patens*	Years recorded	First Flowering Date			Latest Date in Flower	Mean Flowering Period in Days
					Mean Date	Earliest Date and Year	Latest Date and Year		
118	Perennial sow thistle	*Sonchus arvensis*	94	4	July 28	July 5/56	Aug. 4/54	——	—
119	Owl's clover	*Orthocarpus luteus*	95	6	July 27	July 16/56	Aug. 11/50	Sept. 27	43
120	Short-awned foxtail	*Alopecurus aequalis*	95	5	Aug. 4	June 26/54	Aug. 31/51	Sept. 8	—
121	White evening primrose	*Oenothera nuttallii*	96	4	July 24	July 16/56	Aug. 2/54	Aug. 24	20
122	Tall smooth goldenrod	*Solidago serotina*	96	3	July 29	July 27/53 & 56	Aug. 2/54	Oct. 16	59
123	Beautiful sunflower	*Helianthus laetiflorus*	99	4	July 27	July 21/52	Aug. 2/54	Oct. 14	32
124	Canada fleabane	*Erigeron canadensis*	100	5	July 29	July 21/52	Aug. 8/51	Sept. 27	44
125	Stiff goldenrod	*Solidago rigida*	101	4	July 20	July 21/52	Aug. 7/53	Sept. 27	36
126	Linear-leaved wormwood	*Artemisia dracunculoides*	101	2	Aug. 3	Aug. 2/54	Aug. 3/56	——	—
127	Flodman's thistle	*Cirsium flodmanii*	103	2	Aug. 4	July 16/56	Aug. 24/54	——	41
128	Broomweed	*Gutierrezia diversifolia*	103	6	Aug. 4	July 21/52	Aug. 31/51	Oct. 1	47
129	Western water plantain	*Alisma triviale*	104	4	Aug. 2	July 21/52	Aug. 24/54	Aug. 31	18
130	Sneezeweed	*Helenium autumnale*	104	4	Aug. 2	July 27/56	Aug. 7/53	Oct. 16	67
131	Oblong-leaved gentian	*Gentiana affinis*	105	4	Aug. 2	July 21/52	Aug. 9/54	Sept. 16	40
132	Small-leaved aster	*Aster adsurgens*	106	7	Aug. 5	July 10/37	Aug. 31/51	Oct. 1	48
133	Velvety goldenrod	*Solidago mollis*	106	6	Aug. 7	July 14/52	Aug. 31/51	Oct. 16	55
134	Osterhout's aster	*Aster osterhoutii*	107	4	Aug. 4	July 21/52	Aug. 16/54	Oct. 2	50
135	Pasture or fringed sage	*Artemisia frigida*	108	4	Aug. 8	July 23/54	Aug. 22/55	Sept. 20	36
136	Plains wormwood	*Artemisia camporum*	110	3	Aug. 8	July 21/52	Aug. 31/53	——	—
137	Smooth beggar-ticks	*Bidens cernua*	112	4	Aug. 12	July 31/55	Aug. 24/54	Sept. 11	20
138	Small navarretia	*Navarretia minima*	112	2	Aug. 20	Aug. 9/54	Aug. 31/50	——	—
139	Smooth aster	*Aster laevis*	113	6	Aug. 14	Aug. 1/52	Sept. 9/50	Oct. 16	48
140	Little bluestem	*Andropogon scoparius*	118	5	Aug. 15	Aug. 3/56	Aug. 28/53	Sept. 27	27
141	Prickly lettuce	*Lactuca scariola*	118	6	Aug. 15	July 11/37	Aug. 31/51	Sept. 20	—
142	Prairie sage	*Artemisia gnaphalodes*	125	5	Aug. 19	Aug. 3/56	Sept. 7/55	——	—
143	False ragweed	*Iva xanthifolia*	127	2	Aug. 14	Aug. 11/52	Aug. 16/56	——	—
144	Rayless aster	*Brachyactis angusta*	132	2	Aug. 30	Aug. 22/52	Sept. 7/54	——	—
145	Hoary sagebush	*Artemisia cana*	135	5	Aug. 31	Aug. 16/52	Sept. 11/53	Sept. 27	19

lands and overgrazed range very rapidly. It is suggested that the long-season flowering period is a factor which contributes to an abundant supply of seed to colonize untended and abused lands, and a reason for the often indifferent kills obtained when control measures are applied.

Flowering dates of range weeds also suggest reasons for their dispersion. Crocus anemone #1, dandelion #3, and moss phlox #4, flower and set seed before the competitive grasses commence their rapid growth; further heavy grazing during the spring reduces the vitality of the grasses and thus promotes conditions for the establishment of the early-flowering weeds. Of those plants which bloom during June and July, goatsbeard #52, purple cactus #73, prickly pear #89, blue-bur #85, western snowberry #87, and skeleton weed #105 are range weeds, but these spread only when pastures are overgrazed and the competitive grasses are weakened. The important late-season flowering range weed is pasture or fringed sage #135; it spreads mostly on drought damaged or misused range where the grasses have been weakened or killed. These data demonstrate the necessity of applying sound range management practices throughout the year because seeds of one or more range weeds will be maturing from early spring through autumn.

A reliable indicator to forecast date of range readiness has been desired for some time. It has been shown previously (Campbell 1952a, 1952b) when range is protected (totally or in degree) until early June, that heavier yields of forage and stronger

stands of grass will be assured. Associating the information presented in Table 1 with range management recommendations, it is evident that range will be ready to graze when the plants numbered #45 to #60 commence blooming. Of these the best known is Wood's rose #59, and the date of its bloom is recommended as a reliable indicator of range readiness. It is possible to forecast the date of bloom of Wood's rose with reasonable accuracy, because it commences flowering 50 to 55 days after the crocus anemone appears. Both plants are ubiquitous to all grassland regions in the Prairies, and both are well known. Thus, date of range readiness in any year can be forecast by observing the date at which crocus anemone blooms, and protecting the range for an additional seven weeks or until the Wood's rose commences flowering.

Sixty-five of the species listed in Table 1 are reported by Criddle (1927) also. These were compared for dates of flowering characteristics by correlation and regression analyses. A numerical value was given each species in both lists by adding the days from April 1st to mean date of first bloom. The correlation coefficient of $r_{xy} = 0.923 \pm 0.055$ was highly significant and indicated that the species included in the anaylses flowered in a similar sequence. The regression equation of $x = 7 + .982y$ is an expression of the number of days (x) after April 1st that a species would be expected to start bloom at Swift Current on the basis of the number of days (y) after April 1st that the same species bloomed at Treesbank, Manitoba. The equation indicates that early-season flowering species will be about 7 days earlier at Treesbank than at Swift Current, and although the season is compressed slightly, that later-season flowering species will bloom a few days later at Swift Current than at Treesbank.

Summary

Native plants will bloom at Swift Current, Saskatchewan, over a period of 135 to 140 days. A few species will flower from early spring until late autumn—particularly aggressive weeds, but most species will bloom at near the same date every year and for a period of from 20 to 40 days. Members of the composite family generally have a late-season blooming character, but no family is strongly represented amongst those which flower early in the season.

One or more of the several range weeds will bloom at some period throughout the summer, necessitating careful management during all seasons to prevent their spread. Date of range readiness can be forecast from the date of the flowering of crocus anemone.

Potential ornamentals could be selected from prairie flowers to stock a border or bed with long-season flowering species.

Analyses conducted indicate that a native species will flower about 7 days earlier at Treesbank, Manitoba, than at Swift Current, although this difference will be less for late-season flowering species. The sequence of flowering by species will be similar at both locations.

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