

Flowering Dates of Weeds In North Dakota

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Seeds are usually necessary to produce new plants. Flowers are necessary to produce seeds. A knowledge of the time of seed ripening is essential for weed control work. The presence of flowers is more easily observed than maturity of seeds. Thus the date of flower development is of chief importance.

A person who is well acquainted with a particular plant can usually recognize a young specimen of it but if he does not know the plant it is difficult or impossible to name it without the flower. Moreover, the flowering condition is usually the most conspicuous.

The following records for the beginning of flowering have accumulated over a period of nearly 50 years. The average date is given together with the range of observations in different years. If less than four records are available, the number of years is stated. Some species have been noted nearly every year, but for even some of the most common weeds, records are scarce. This often has been because of the difficulty of choosing a "normal" date. In fields the plants are disturbed by tillage or if in neglected fields they may be so thick that they do not develop normally.

Individual plants vary for reasons which usually are not evident. This is especially true of mid-summer plants. An occasional flower head of gumweed has often been seen two weeks in advance of the usual period. A few plants of giant ragweed (kinghead) usually begin to flower a week or more before any others.

Beginning of flowering is defined as the day when the first pollen is shed. In some plants (especially leafy spurge) the flower clusters are conspicuous several days in advance of that time. The variation in dates seems large for many plants and may be due to a combination of weather, other growth conditions and opportunity for observation. The averages are probably fairly accurate in most cases. For most of the plants, where several years' records are available, the present averages rarely differ more than three days from a previous calculation from 10 years' record (American Midland Naturalist, 1921).

The list includes chiefly those plants usually recognized as field or pasture weeds but a few poisonous plants and some commonly confused with them are shown. Only two shrubs are included, poison ivy and wolfberry.

Absinth (*Artemisia absinthium*). Aug 12 (1 year).

Alyssum, hoary (*Berteroa incana*). June 6 (2 years).

Arrowgrass (*Triglochin maritima*). June 10 (2 years).

¹Botanist.

- Artichoke, Jerusalem** (*Helianthus tuberosus*). Aug. 18 (15-24).
Aster, white prairie (*Aster ericoides*). Aug. 18 (10-28).
Aster, tall white (*Aster "paniculatus"*). Aug. 20 (Aug. 10-Sept. 5).
Barley, foxtail (*Hordeum jubatum*). June 18 (13-29).
Bee plant (*Cleome serrulata*). July 6 (1 year).
Beggarticks (*Bidens vulgata*). Aug. 15 (3 years). Other species similar.
Bindweed, downy (*Convolvulus repens*). June 15 (6-24).
Bindweed, field (*Convolvulus arvensis*). June 26 (June 17-July 6).
Bindweed, large (*Convolvulus sepium*). June 25 (June 11-July 21).
Black-eyed Susan (*Rudbeckia serotina (hirta)*). June 19 (3 years).
Bluegrass, annual (*Poa annua*). June 9 (May 5-July 11). Erratic according to conditions.
Buckwheat, wild (*Polygonum convolvulus*). June 26 (2 years).
Burdock (*Arctium minus*). Aug. 6 (July 28-Aug. 12).
Burning bush (*Kochia scoparia*). Aug. 1 (1 year).
Buttercup, field (*Ranunculus acris*). June 13 (2 years).
Buttercup, cursed (*Ranunculus sceleratus*). May 30 (May 21-June 7).
Camas (*Zigadenus elegans*). June 25 (21-29).
Catchfly, night-flowering (*Silene noctiflora*). June 22 (3 years).
Catchfly, sleepy (*Silene atirrhina*). June 20 (3 years).
Catchfly, smooth (*Silene cserei*). June 25 (2 years).
Chickweed, common (*Stellaria media*). June 9 (May 26-June 20). Plants rarely live over winter and flower May 4 (2 years).
Chickweed, mouse-ear (*Cerastium vulgatum*). May 25 (1 year).
Cinquefoil, rough (*Potentilla norvegica*). June 19 (12-30).
Cleavers (*Galium aparine*). May 30 (May 21-June 13).
Clover, yellow sweet (*Melilotus officinalis*). June 10 (May 28-June 16).
Clover, white sweet (*Melilotus alba*). June 27 (14-30).
Cockle, corn (*Agrostemma githago*). July 5 (2 year).
Cockle, pink (*Saponaria vaccaria*). June 23 (1 year).
Cocklebur (*Xanthium italicum*). Aug. 8 (2-15).
Coneflower, long-headed (*Ratibida columnifera*). July 4 (June 15-July 19).
Coneflower, tall (*Rudbeckia laciniata*). July 26 (23-31).
Cress, marsh (*Rorippa islandica*). June 18 (June 5-July 1).
Cress, yellow (*Rorippa sinuata*). May 30 (1 year at Medora).
Dandelion (*Taraxacum officinale*). May 9 (Apr. 28-May 19). Earlier in protected places.
Dock, curled (*Rumex crispus*). June 15 (13-18).
Dock, golden (*Rumex maritimus*). June 26 (2 years).
Dock, sorrel (*Rumex acetosella*). June 16 (3 years). Rare here.
Dock, willow-leaved (*Rumex mexicanus*). June 6 (May 29-June 11).
Dodder, field (*Cuscuta campestris*). July 31 (1 year).
Dodder, Gronovius (*Cuscuta gronovii*). Aug. 3 (2 years).
Dodder, hazel (*Cuscuta coryli*). Aug. 8 (1 year). Should be late July.
Dogbane (*Apocynum sibiricum*). June 23 (June 11-July 2).
Dog fennel (*Anthemis cotula*). June 28 (3 years).
Dragonhead (*Dracocephalum parviflorum*). June 22 (June 16-July 4).
Evening-primrose, common (*Oenothera strigosa*). July 13 (June 24-July 30).

- Evening-primrose, white-stemmed** (*Oenothera nuttallii*). June 22
(June 15-July 29).
- Fleabane, daisy** (*Erigeron strigosus*). June 25 (2 years).
- Fleabane, Philadelphia** (*Erigeron philadelphicus*). June 8
(May 15-June 17).
- Flixweed** (*Descurainia sophia*). May 28 (May 13-June 11).
- Flower-of-an-hour** (*Hibiscus trionum*). July 5 (3 years).
- Four-O'clock, wild** (*Mirabilis nyctaginea*). June 17 (6-25)
- Frenchweed** (*Thlaspi arvense*). Apr.21 (Mar. 22-May 19). First flowers
are from wintered plants which are scarce if the fall was dry.
- Fumitory** (*Fumaria officinalis*). May 30 (3 years).
- Germander** (*Teucrium occidentale*). July 5 (3 years).
- Gill-over-the-ground** (*Glechoma hederacea*). May 24 (2 years).
- Goatsbeard** (*Tragopogon dubius*). June 10 (May 30-June 18).
- Goldenrod, Canada** (*Solidago canadensis*). Aug. 8 (July 19-Aug. 18).
- Goldenrod, stiff** (*Solidago rigida*). Aug. 10 (July 28-Aug. 14).
- Goldenrod, tall smooth** (*Solidago gigantea*). July 26 (July 13-Aug. 12).
- Grass, barnyard** (*Echinochloa crusgalli*). July 15 (2 years).
- Grass, green pigeon** (*Setaria viridis*). July 2 (2 years).
- Grass, yellow pigeon** (*Setaria glauca*). July 13 (3 years).
- Grass, quack** (*Agropyron repens*). June 23 (June 12-July 5).
- Grass, small rush** (*Sporobolus neglectus*). Aug. 15 (1 year).
Probably earlier. The flowers remain in the sheaths.
- Grass, stink** (*Eragrostis cilianensis*). July 8 (3 years).
- Grass, sweet** (*Hierochloe odorata*). May 14 (1-27).
- Gumweed** (*Grindelia squarrosa*). July 28 (July 24-Aug. 14).
An occasional plant as early as June 16.
- Hemlock, water** (*Cicuta maculata*). June 24 (June 19-July 5).
- Horseweed** (*Erigeron canadensis*). July 13. (June 19-July 31).
- Ironweed** (*Vernonia fasciculata*). July 26 (July 13-Aug. 5).
- Ivy, poison** (*Rhus radicans*). June 17 (11-28).
- Knapweed, Russian** (*Centaurea repens*). June 28 (2 years).
- Knotweed, common** (*Polygonum aviculare*). June 15 (1-30).
- Knotweed, upright** (*Polygonum achoreum*). June 9 (May 25-June 30).
- Lady's thumb** (*Polygonum persicaria*). July 15 (2 years).
- Lamb's quarters, common** (*Chenopodium album*). June 21
(June 6-July 5).
- Lamb's quarters, late** (*Chenopodium strictum*). Aug 18 (15-25).
- Lettuce, blue** (*Lactuca pulchella*). July 4 (June 23-July 15).
- Lettuce, prickly** (*Lactuca scariola*). July 18 (June 6-Aug. 7).
- Lettuce, wild** (*Lactuca ludoviciana*). July 7 (June 29-July 19).
- Licorice, wild** (*Glycyrrhiza lepidota*). June 21 (16-31).
- Lion's tail** (*Leonurus cardiaca*). July 5 (3 years).
- Loco weed** (*Oxtropis lambertii*). June 3 (May 29-June 6).
- Mallow** (*Malva rotundifolia (borealis)*). June 19 (8-27).
- Marsh elder** (*Iva xanthifolia*). Aug. 18. (13-25). Close observations.
- Milfoil** (*Achillea millefolium*). June 16 (4-25).
- Milkweed, common** (*Asclepias syriaca*). June 26 (June 16-July 1).
- Milkweed, showy** (*Asclepias speciosa*). July 2 (3 years).
- Milkweed, whorled** (*Asclepias verticillata*). July 8 (2 years).
- Mint, wild** (*Mentha arvensis*). July 5 (2 years).

- Monolepis** (*Monolepis nuttalliana*). May 19 (1-24).
- Mustard, ball** (*Neslia paniculata*). June 25 (1 year).
- Mustard, dog** (*Erucastrum gallicum*). June 14 (3 years).
- Mustard, field** (*Brassica kaber*). May 31 (May 18-June 10).
- Mustard, hare's ear** (*Conringia orientalis*). May 31 (May 14-June 6).
- Mustard, Indian** (*Brassica juncea*). June 14 (3-25).
- Mustard, tumbling** (*Sisymbrium altissimum*). June 13 (May 29-June 24).
- Mustard, wormseed** (*Erysimum chieranthoides*). June 23 (2 years.).
- Nettle, common** (*Urtica procera*). July 5 (June 25-July 19).
- Nettle, hedge** (*Stachys palustris*). July 1 (June 21-July 10).
- Nettle, wood** (*Laportea canadensis*). July 7 (2 years).
- Nightshade, black** (*Solanum nigrum*). June 26 (1 year).
- Nightshade, cut-leaved** (*Solanum triflorum*). June 21 (1 year).
- Oats, wild** (*Avena fatua*). June 30 (June 23-July 10).
- Onion, white wild** (*Allium textile*). May 16 (May 6-June 4).
- Parsnip, meadow** (*Zizia aurea*). May 26 (May 8-June 14).
- Parsnip, water** (*Sium suave*). July 5 (3 years).
- Parsnip, wild** (*Pastinaca sativa*). June 18 (3 years).
- Pennyroyal, rough** (*Hedeoma hispida*). June 9 (3 years).
- Peppergrass, branched** (*Lepidium ramosissimum*). June 11 (1 year). It is definitely later than common peppergrass but is a yard weed not a field weed.
- Peppergrass, common** (*Lepidium densiflorum*). May 28 (May 13-June 13).
- Peppergrass, perennial** (*Cardaria draba*). June 6 (May 27-June 23).
- Peppergrass, perennial** (*Cardaria pubescens*). June 3 (2 years).
- Pigweed, prostrate** (*Amaranthus graecizans (blitoides)*). June 14 (6-25).
- Pigweed, rough** (*Amaranthus retroflexus*). July 3 (June 15-July 21).
- Pineapple weed** (*Matricaria matricarioides*). June 6 (2 years).
- Plantain, common** (*Plantago major*). June 23 (June 21-July 1).
- Plantain, Rugel's** (*Plantago rugelii*). June 23 (2 years).
- Poverty weed** (*Iva axillaris*). Late June but no records.
- Prickly pear cactus** (*Opuntia humifusa*). June 29 (June 21-July 18).
- Purslane** (*Portulaca oleracea*). June 28 (June 21-July 6).
- Ragweed, common** (*Ambrosia artemisiifolia*). July 31 (July 24-Aug. 10).
- Ragweed, giant** (*Ambrosia trifida*). July 12 (June 24-July 31).
- Rush** (*Juncus balticus*). June 7 (3 years).
- Sage, little** (*Artemisia frigida*). July (no dates).
- Sage, white** (*Artemisia ludoviciana*). Aug. 25 (2 years).
- Saltbush** (*Atriplex hastata*). Aug. 12 (3 years).
- Saltbush** (*Atriplex patula*). Aug. 17 (2 years).
- Selfheal** (*Prunella vulgaris*). June 19 (2 years).
- Shepherd's purse** (*Capsella bursa-pastoris*). May 1 (Apr. 6-May 16).
- Silver-leaf** (*Psoralea argophylla*). June 29 (June 23-July 9).
- Skeleton weed** (*Lygodesmia juncea*). July 3 (3 years).
- Smartweed, pale** (*Polygonum lapathifolium*). July 20 (2 years).
- Smartweed, perennial** (*Polygonum coccineum*). July 8 (June 25-July 19).
- Sow thistle, common** (*Sonchus oleraceus*). July 15 (1 year).
- Sow thistle, perennial** (*Sonchus arvensis*). July 2 (June 21-July 5).
- Sow thistle, spiny** (*Sonchus asper*). July 1 (3 years).
- Speedwell** (*Veronica peregrina*). May 20 (May 6-June 2). Difference between fall and spring seedlings not yet determined.

- Spurge, leafy** (*Euphorbia esula*). June 14 (3 years). The yellow flower clusters are conspicuous for some days before actual pollen shedding.
- Spurge, thyme-leaved** (*Euphorbia serpyllifolia*). June 12 (1-21).
- Stickseed, blue** (*Lappula echinata*). May 30 (May 3 one year; rest May 25-June 13).
- Stickseed, western** (*Lappula occidentalis*). May 26 (May 13-June 2).
- Sunflower, common** (*Helianthus annuus*). July 10 (3 years).
- Sunflower, false** (*Heliopsis helianthoides*). June 25 (June 16-July 2).
- Sunflower, Maximilian's** (*Helianthus maximiliani*). July 8 (June 21-July 15).
- Sunflower, rough** (*Helianthus rigidus*). Aug. 2 (2 years).
- Sunflower, sand** (*Helianthus petiolaris*). July 5 (June 21-July 15).
- Thistle, bull** (*Cirsium vulgare*). July 24 (2 years).
- Thistle, Canada** (*Cirsium arvense*). July 7 (June 27-July 24).
- Thistle, prairie** (*Cirsium undulatum*). July 5 (June 24-July 12).
- Thistle, Russian** (*Salsola kali*). July 7 (1-19).
- Thistle, tall** (*Cirsium altissimum*). Aug. 4 (2 years). Rare here.
- Toadflax** (*Linaria vulgaris*). June 25 (2 years).
- Trefoil, yellow** (*Medicago lupulina*). June 11 (2-17).
- Vetch, wild** (*Vicia americana*). May 31 (May 17-June 15).
- Vetch, wild** (*Vicia sparsifolia*). Dates for this prairie form are not satisfactory (4 average June 1). I am quite sure it is earlier than *V. americana*.
- Vervain, bracted** (*Verbena bracteata*). June 17 (2 years).
- Vervain, blue** (*Verbena hastata*). July 1 (2 years).
- Vervain, nettle-leaved** (*Verbena urticifolia*). July 22 (18-30).
- Waterhemp** (*Amaranthus (Acnida) tamariscinus*). Aug. 8 (2 years).
- Waterpod** (*Ellisia nyctelea*). May 21 (May 6-June 4). This has been under close observation.
- Wolfberry** (*Symphoricarpos occidentalis*). June 26 (June 16-July 20).
- Wood sorrel, pink** (*Oxalis violacea*). May 23 (11-30).
- Wood sorrel, yellow** (*Oxalis europea (cymosa)*). June 9 (May 27-June 19).
- Wood sorrel, yellow** (*Oxalis stricta*). June 9 (May 24-June 15).
- Wormwood** (*Artemisia biennis*). Aug. 31 (2 years).
- Wormwood** (*Artemisia caudata*). Aug. 21 (2 years).

NORTH DAKOTA AND U. S. SPRING PIG CROP DOWN

The 1956 crop of spring pigs in North Dakota is estimated at 499,000 head, according to the Agricultural Marketing Service at Fargo. This is 26 per cent less than the 672,000 head saved from the spring pig crop in 1955 and is the smallest spring pig crop since 1953 when 473,000 pigs were saved. The 10-year average (1945-54) spring pig crop was 656,000 head. The number of pigs saved per litter averaged 6.65 this spring, compared with 6.93 in 1955. For the U. S. the 1956 spring pig crop totaled 53,085,000 head, a decline of eight per cent from the spring of 1955.

North Dakota farmers indicated they would have 17,000 sows for fall farrowing in 1956. This compares with 18,000 farrowed in the fall of 1955 and the 1945-54 average of 16,000. Reports on breeding intentions for the U. S. indicate that 5,163,000 sows will farrow in the fall of 1956. If these intentions are realized this number will be seven per cent less than during the fall of 1955.