

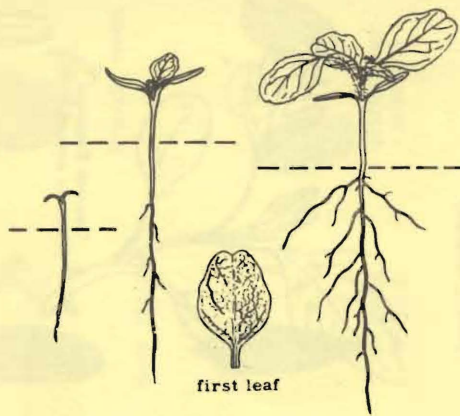
Weed Seeds and Seedlings

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Rough Pigweed
(*Amaranthus retroflexus*)

Weeds are one of the chief problems of the farmer, and weed seeds in the soil are a continuous source of increased operating expenses and of losses in crop yields. Many weed seeds are scattered by wind, some by water and by animals, but the chief sources of seeds in the soil are weeds planted in uncleaned crop seed, and those produced by the weeds which were allowed to mature.

A single plant will bear thousands of seeds. A pure stand of Frenchweed was found to produce 150,000 seeds per square yard. (See list on page 4 for additional weed seed yields.)

Many weed seeds have hard seed coats, do not germinate readily and may remain alive in the soil for many years. Seeds of mustard, dock and pigweed have germinated after being buried in the ground for 50 years. The tiny seeds of mullein and evening primrose also lived through, but grass seeds did not survive so well.

Frenchweed, wild oats and lambsquarters are the first to grow in the spring. Pigweed and kinghead start a little later; pigeongrass is tender to frost and starts late in the spring. Purslane does not start until the soil is warm and dry.

Not many seeds germinate during midsummer. Some Frenchweed seeds germinate in fall. Seedlings from these fall germinated seeds live through the winter and continue growing in the spring. Peppergrass, some other mustards and prickly lettuce do the same. Wild oats, common mustard and other weed seeds may germinate in the fall but the plants fail to live through the winter.

Pigeongrass, wild oats and wild buckwheat, preferably when ground, can be used for feed in place of barley up to two-fifths of a grain ration. Cockles, mustards and small weed seeds are not good for feed and should be burned.

The way to free the soil of weed seeds, is to allow them to grow and then to destroy the seedlings. Attention to the natural time of germination will help to plan the most effective work. One or more cultivations at the proper time before seeding, or summer-fallow before June 1, will destroy quantities of seedlings. After that date the growing plants rapidly reduce the soil moisture and soon begin to ripen seeds.

Do not neglect to clean seed grain. A thimbleful of pigweed seeds would be hidden in a cupful of wheat or clover, but would amount to 5,500 seeds.

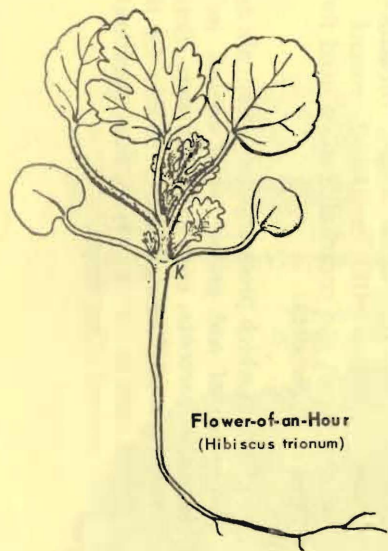
Weed seedlings, generally, are more susceptible to herbicides than well established plants. This is especially true for kochia which becomes resistant to selective herbicides beyond the seedling stage. Weeds, as do all plants, grow rapidly under lush growing conditions in the spring. An actively growing plant is more easily killed with herbicides than is one approaching maturity. Ideal temperatures for spraying are between 65 and 85 degrees F. Below 60 degrees weeds are killed very slowly; above 90 degrees there is danger of crop injury.

Use selective herbicides to eliminate weed seedlings from crops. In wheat and barley, either 2,4-D or MCPA is used to control most broadleaf seedlings.

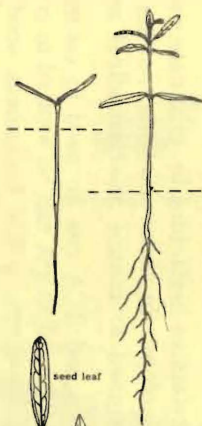
Dalapon and TCA can be used to control grassy weeds in flax and MCPA can be applied to control the broadleaf seedlings. Wild buckwheat seedlings are somewhat resistant to 2,4-D and MCPA, except in their seed leaf (cotyledon) stage. Dicamba (Banvel D) gives selective wild buckwheat control in spring seeded wheat and endothall can be used for this purpose in sugarbeets.

Crop in which preemergence chemicals can be used for broadleaf and grassy weed control include soybeans, sugarbeets, corn and safflower. Both post and preemergence chemicals are available for the control of wild oats in barley, wheat, flax, sugarbeets as well as in several other crops.

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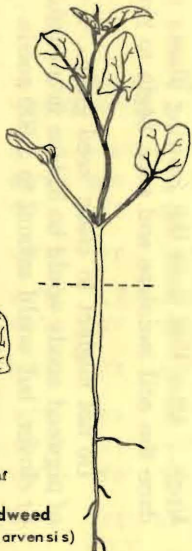
Flower-of-an-Hour
(*Hibiscus trionum*)



Leafy Spurge
(*Euphorbia esula*)



fourth leaf



Field Bindweed
(*Convolvulus arvensis*)



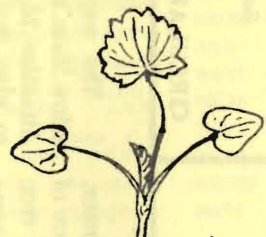
first leaf



Saltbush
(*Atriplex hastata*)



Wild Buckwheat
(*Polygonum convolvulus*)



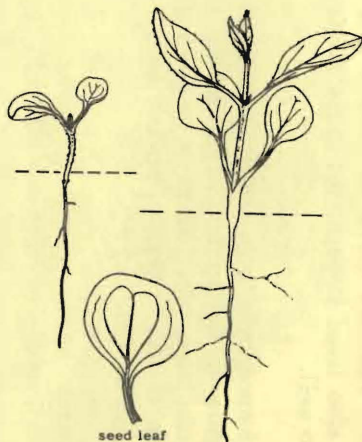
Common Mallow
(*Malva rotundifolia*)



Common Mustard
(*Brassica arvensis*)



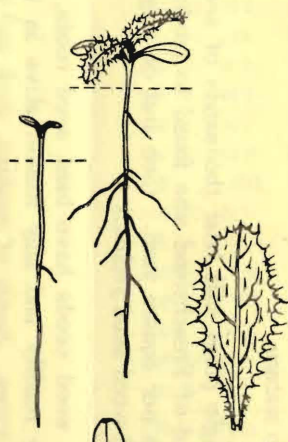
Prickly Lettuce
(*Lactuca scariola*)



Wild Four-O'Clock
(*Allionia nyctaginea*)



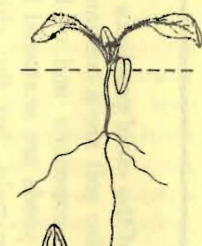
seed leaf



Canada Thistle
(*Cirsium arvense*)

seed leaf

first leaf



Night-Flowering Catchfly
(*Silene noctiflora*)

seed leaf

seed leaf



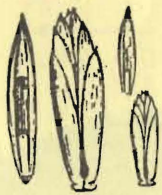
Common Ragweed
(*Ambrosia artemisiifolia*)

SOME COMMON WEED SEEDS

Natural Size and Enlarged



Wild oats



Quackgrass



Field bindweed



Leafy spurge



Witchgrass



Yellow pigeongrass



Green pigeongrass



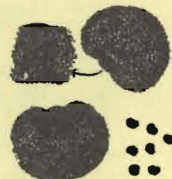
Barnyard grass



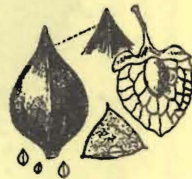
Wild barley



Wild buckwheat



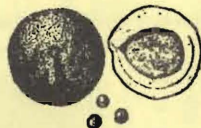
Catchfly



Dock



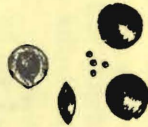
Corn cockle



Pink cockle



Stickseed



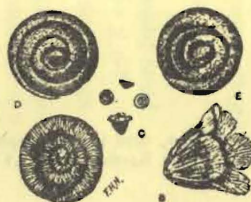
Tumbling pigweed



Kinghead



Ragweed



Russian thistle



Lambsquarters



Dodder



Canada thistle



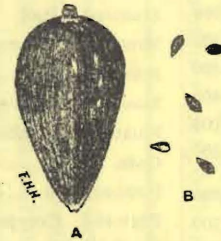
Sow thistle



French weed



Dragon head



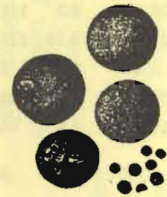
Marsh elder



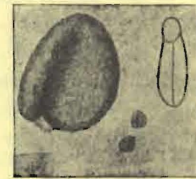
Prickly lettuce



Hare's ear mustard



Mustard



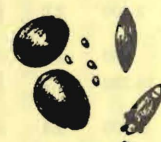
False flax



Tumbling Mustard



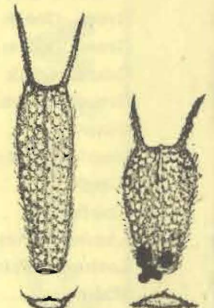
Wild rose



Pigweed



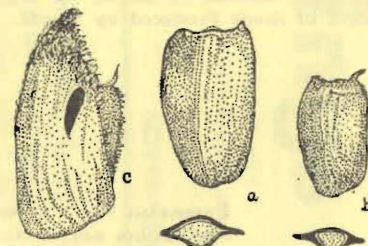
Narrow-leaved vetch



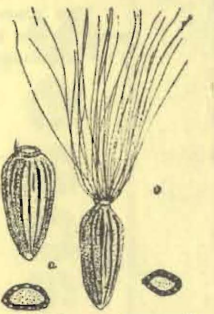
Beggar ticks



Sunflower



Long-headed Coneflower



Stiff goldenrod

SEED PRODUCTION OF INDIVIDUAL PLANTS

Actual yield of an average, well developed plant. The weight in grams per 1000 (or mg. each) will help anyone to judge the size of an unfamiliar seed by comparing its weight with that of some other kind.

	No. per plant	Wt.	No. in 1 oz.		No. per plant	Wt.	No. in 1 oz.
Barley, Wild	2,420	1.1	25,800	Marsh Elder	82,150	1.2	23,600
Beggar Ticks	7,000	3.5	8,100	Mullein	223,200	0.09	315,000
Buckwheat, Wild	11,900	7.0	4,000	Mustard, Ball	490	3.0	9,450
Buffalo Bur	8,460	2.3	12,300	Mustard, Common ..	2,700	1.9	15,000
Burdock	31,600	7.5	3,800	Mustard, Dog	8,480	0.4	70,500
Catchfly	1,800	0.8	35,400	Mustard, Hare's-ear	3,800	2.1	13,500
Cinquefoil	48,600	0.13	218,000	Mustard, Tumbling ..	80,400	0.17	167,000
Cockle, Pink	4,300	8.8	3,200	Oats, Wild	250	17.5	1,600
Coneflower, Long-headed	7,000	0.4	70,700	Peppergrass	6,000	0.25	113,400
Dandelion	15,000	0.5	56,700	Pigweed, Creeping ..	14,600	0.95	30,000
Dock, Curled	29,500	1.4	20,200	Pigweed, Rough	117,400	0.38	74,600
Dodder, Field	16,000	0.8	35,400	Pigweed, Tumbling ..	129,000	0.23	123,300
Dodder, Hazel	7,000	2.2	12,900	Plantain, Common ..	36,150	0.2	141,700
Dragonhead	49,600	2.6	10,900	Purslane	52,300	0.13	218,000
Evening Primrose ..	118,500	0.3	94,500	Ragweed	3,380	3.9	7,200
False Flax (large seeded)	1,970	2.6	10,900	Shepherd's Purse ..	38,500	0.1	283,500
Flixweed	75,650	0.12	236,000	Smartweed	19,300	1.5	18,900
Frenchweed	7,040	0.8	35,400	Spurge, Leafy (1 stem)	140	3.5	8,100
Goldenrod, Stiff	3,290	0.5	56,700	Spurge, Thyme- leaved	2,670	0.3	94,500
Grass, Barnyard	7,160	1.4	20,200	Stickseed	2,120	1.3	21,800
Grass, Green Pigeon	34,000	1.5	18,900	Sunflower, Common	7,200	6.6	4,300
Grass, Yellow Pigeon	6,420	4.2	6,700	Sunflower, Narrow- leaved	2,600	2.2	12,900
Grass, Stink	82,100	.075	375,000	Thistle, Canada (1 stem)	680	1.6	17,700
Grass, Witch	11,400	0.6	47,200	Thistle, Russian	24,700	1.7	16,700
Gumweed	29,700	0.6	47,200	Thistle, Perennial Sow (1 stem)	9,750	0.4	70,500
Hemlock, Water	5,500	1.5	18,900	Vetch, Narrow- leaved	150	18.2	1,550
Kinghead	1,650	17.4	1,600	Wormwood	1,075,000	0.07	375,000
Knotweed	6,380	0.7	40,000				
Lambsquarters	72,450	0.7	40,000				
Lettuce, Prickly	27,900	0.5	56,700				
Mallow	47,500	1.3	21,800				

The above table is compiled from a more detailed report upon North Dakota weed seeds in the American Journal of Botany for November, 1932—Stevens, O. A. The Number and Weight of Seeds Produced by Weeds.

