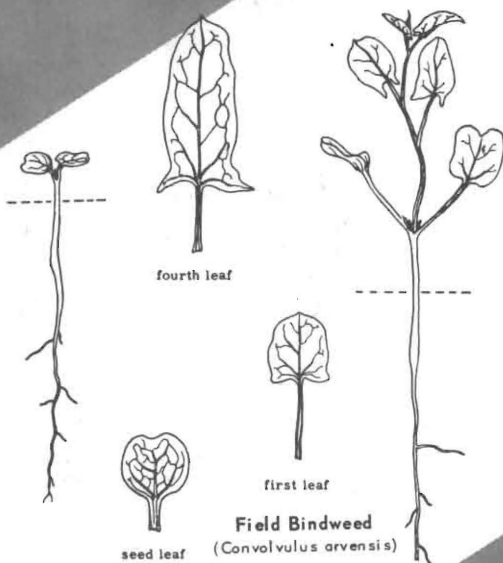


# Weed Seeds and Seedlings



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## WEED SEEDS AND SEEDLINGS

**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 from weed seed 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 field pennycress (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 remained alive, but grass seeds did not survive so well.

Field pennycress, wild oats and common lambsquarters are the first to grow in the spring. Pigweed and giant ragweed start a little later; foxtail (pigeon-grass) is tender to frost and starts late in the spring. Common purslane does not start until the soil is warm and dry.

Not many seeds germinate during midsummer. Some field pennycress seeds germinate in fall. Seedlings from these fall germinated seeds live through the winter and continue growing in the spring. Greenflower pepperweed (peppergrass), some other mustards and prickly lettuce do the same. Wild oats, wild mustard and other weed seeds may germinate in the fall but the plants fail to live through the winter.

Foxtail (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.

To free the soil of weed seeds, allow them to grow and then 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 summerfallow 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.

Always 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.

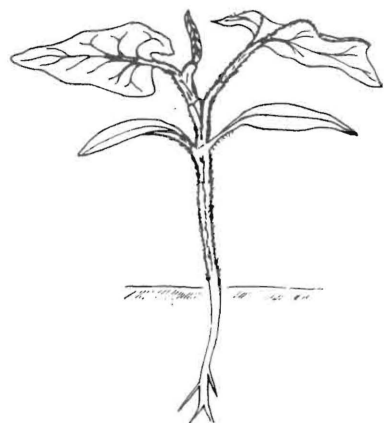
Generally weed seedlings are more susceptible to herbicides than well established plants. This is especially true for kochia, which becomes resistant to selective herbicides beyond the seedling stage. Weeds, like all plants, grow rapidly under favorable growing conditions in the spring. An actively growing 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.

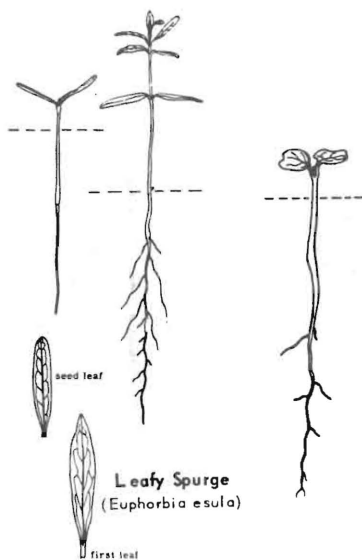
Dalapon and TCA can be used to control grassy weeds in flax and MCPA can be applied to control the broadleaf seedlings. Wild buckwheat seedlings are somewhat resistant to 2,4-D and MCPA, except in their seed leaf (cotyledon) stage. Dicamba (Banvel) and bromoxynil give selective wild buckwheat control in spring seeded wheat and endo-hall 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, sunflowers, 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.

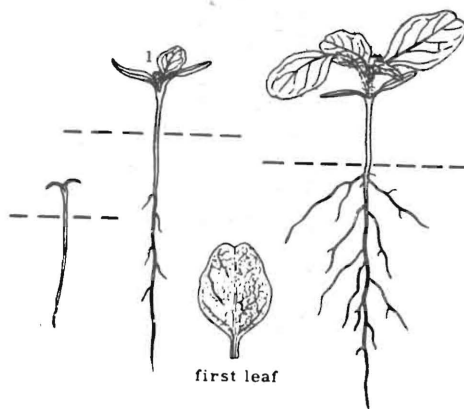
SOME COMMON WEED SEEDLINGS



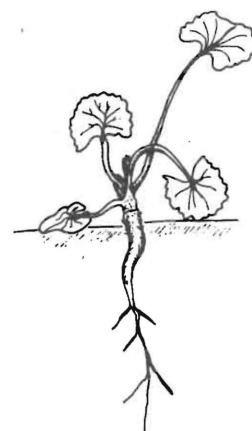
Wild Buckwheat  
(*Polygonum convolvulus*)



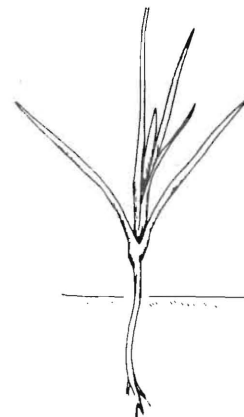
Leafy Spurge  
(*Euphorbia esula*)



Redroot Pigweed  
(*Amaranthus retroflexus*)



Roundleaf Mallow  
(*Malva rotundifolia*)



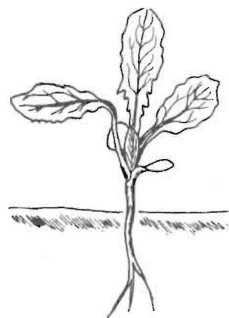
Russian Thistle  
(*Salsola kali*)



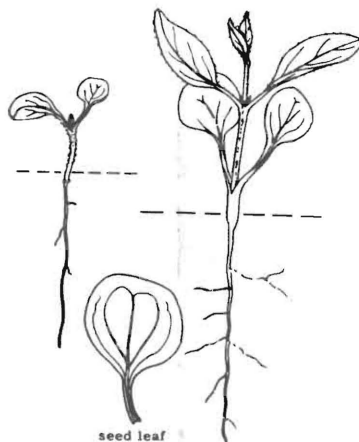
Prickly Lettuce  
(*Lactuca scariola*)



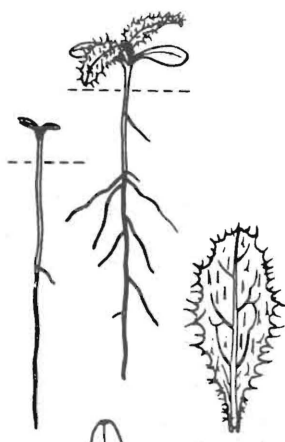
Prickly Lettuce  
(*Lactuca scariola*)



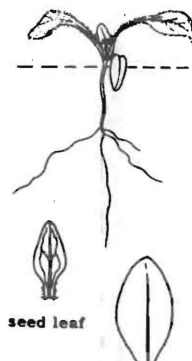
Perennial Sowthistle  
(*Sonchus arvensis*)



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



Canada Thistle  
(*Cirsium arvense*)

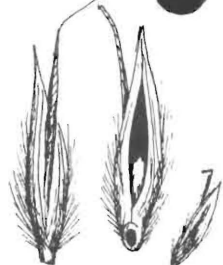


Nightflowering Catchfly  
(*Silene noctiflora*)

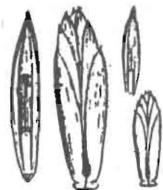


Broadleaf Plantain  
(*Plantago major*)

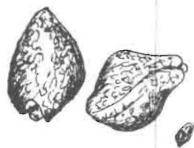
SOME COMMON WEED SEEDS  
Natural Size Enlarged



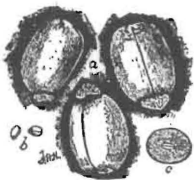
Wild Oats



Quackgrass



Field Bindweed



Leafy Spurge



Field Dodder



Canada Thistle



Perennial Sowthistle



Field Pennycress



Witchgrass



Yellow Foxtail



Green Foxtail



Barnyardgrass



American Dragonhead



Marshelder



Prickly Lettuce



Haresear Mustard



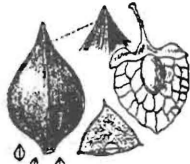
Foxtail Barley



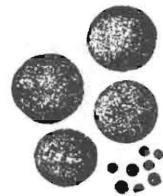
Wild Buckwheat



Nightflowering Catchfly



Curly Dock



Wild Mustard



Flixweed



Tumble Mustard



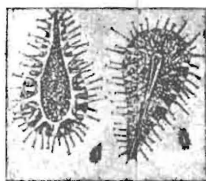
Wild Rose



Common Purslane



Absinth Wormwood



European Sticktight



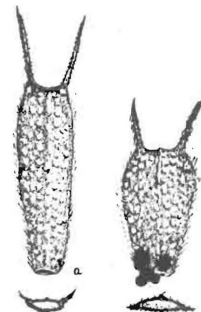
Tumble Pigweed



Redroot Pigweed



Narrowleaf Vetch



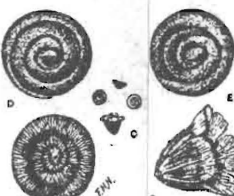
Beggarticks



Giant Ragweed



Common Ragweed



Russian Thistle



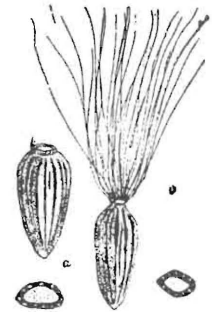
Common Lambsquarters



Sunflower



Prostrate Knotweed



Rigid Goldenrod

## SEED PRODUCTION OF INDIVIDUAL WEEDS

Actual yield of an average, well developed plant. The weight in grams per 1000 (or mg. each) can be used 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, Foxtail . . . . .	2,420	1.1	25,800	Mustard, Haresear. . . . .	3,800	2.1	13,500
Barnyardgrass . . . . .	7,160	1.4	20,200	Mustard, Tumble . . . . .	80,400	0.17	167,000
Buckwheat, Wild . . . . .	11,900	7.0	4,000	Mustard, Wild. . . . .	2,700	1.9	15,000
Burdock, Common. . . . .	31,600	7.5	3,800	Oats, Wild . . . . .	250	17.5	1,600
Catchfly, Nightflowering . . . . .	1,800	0.8	35,400	Pennycress, Field . . . . .	7,040	0.8	35,400
Cinquefoil, Rough . . . . .	48,600	0.13	218,000	Pepperweed . . . . .	6,000	0.25	113,400
Coneflower, Prairie . . . . .	7,000	0.4	70,700	Pigweed, Prostrate . . . . .	14,600	0.95	30,000
Dandelion . . . . .	15,000	0.5	56,700	Pigweed, Redroot . . . . .	117,400	0.38	74,600
Dock, Curly . . . . .	29,500	1.4	20,200	Pigweed, Tumble . . . . .	129,000	0.23	123,300
Dodder, Field . . . . .	16,000	0.8	35,400	Plantain, Common . . . . .	36,150	0.2	141,700
Dodder, Hazel . . . . .	7,000	2.2	12,900	Purslane, Common . . . . .	52,300	0.13	218,000
Dragonhead . . . . .	49,600	2.6	10,900	Ragweed, Common. . . . .	3,380	3.9	7,200
Evening Primrose . . . . .	118,500	0.3	94,500	Ragweed, Giant . . . . .	1,650	17.4	1,600
Flixweed . . . . .	75,650	0.12	236,000	Shepherdspurse . . . . .	38,500	0.1	283,500
Foxtail, Green . . . . .	34,000	1.5	18,900	Smartweed, Pale . . . . .	19,300	1.5	18,900
Foxtail, Yellow . . . . .	6,420	4.2	6,700	Sowthistle, Perennial . . . . .	9,750	0.4	70,500
Goldenrod, Rigid . . . . .	3,290	0.5	56,700	(one stem)			
Gunweed . . . . .	29,700	0.6	47,200	Spurge, Leafy . . . . .	140	3.5	8,100
Hemlock, Water . . . . .	5,500	1.5	18,900	(one stem)			
Knotweed . . . . .	6,380	0.7	40,000	Spurge, Thyme-leaved . . . . .	2,670	0.3	94,500
Lambsquarters, Common . . . . .	72,450	0.7	40,000	Stinkgrass . . . . .	82,100	.075	375,000
Lettuce, Prickly . . . . .	27,900	0.5	56,700	Sunflower, Common . . . . .	7,200	6.6	4,300
Mallow, Dwarf . . . . .	47,500	1.3	21,800	Sunflower, Maximilian . . . . .	2,600	2.2	12,900
Marshelder . . . . .	82,150	1.2	23,600	Thistle, Canada (1 stem) . . . . .	680	1.6	17,700
Mullein, Common . . . . .	223,200	0.09	315,000	Thistle, Russian . . . . .	24,700	1.7	16,700
Mustard, Dog . . . . .	8,480	0.4	70,500	Witchgrass . . . . .	11,400	0.6	47,200
				Wormwood, Biennial . . . . .	1,075,000	0.07	375,000

*The above table is compiled from a more detailed report on 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.*

