Cooperative Extension Service
NORTH DAKOTA STATE UNIVERSITY - FARGO, NORTH DAKOTA 58102
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WEED SEEDS AND SEEDLINGS

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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 back page 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 wild mustard, curly dock and redroot pigweed have germinated after being buried in the ground for 50 years. The tiny seeds of common mullein and common eveningprimrose 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. Redroot pigweed and giant ragweed start a little later; green and yellow foxtails (pigeongrass) are tender to frost and start 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 oat, wild mustard and other weed seeds may germinate in the fall but the plants fail to live through the winter.

Green and yellow foxtails (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 destroyed.

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 redroot pigweed seeds would be hidden in a cupful of wheat or clover, but would amount to 5,500 seeds.

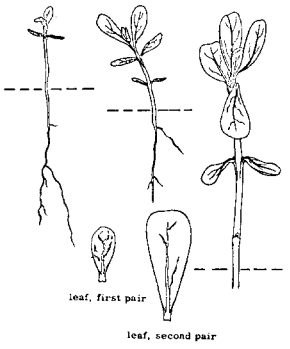
Generally weed seedlings are more susceptible to herbicides than well established plants. This is especially true for kochia, which becomes resistant to selective herbicides beyond the seedling stage. Weeds, like all plants, grow rapidly under favorable growing conditions in the spring. An actively growing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

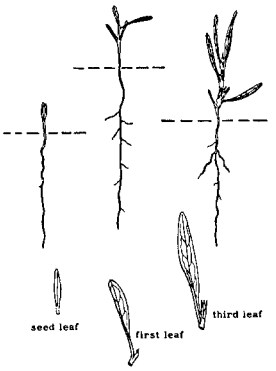
EPTC (Eptam) controls grassy weeds, including wild oats, and many broadleaf weeds in flax. Or dalapon can be used to control the broadleaf seedlings. Wild buckwheat seedlings are somewhat resistant to 2,4-D and MCPA, except in their seed leaf (cotyledon) stage. Dicamba (Banvel) and bromoxynil give selective wild buckwheat control in spring seeded wheat. Bromoxynil also is recommended for buckwheat control in barley. Endothall (Herbicide 273) can be used for this purpose in sugarbeets.

Crops in which preemergence chemicals can be used for broadleaf and grassy weed control include soybeans, dry beans, sugarbeets, corn, sunflowers and potatoes. Both post and preemergence chemicals are available for the control of wild oat in barley, wheat, flax, sugarbeets as well as in several other crops.

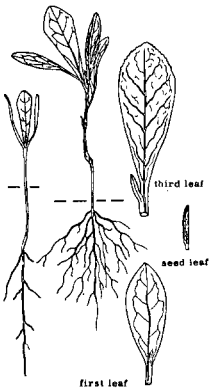
SOME COMMON WEED SEEDLINGS



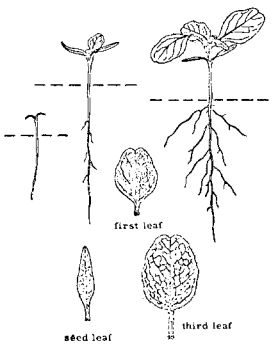
COMMON PURSLANE
(Portulaca oleracea)



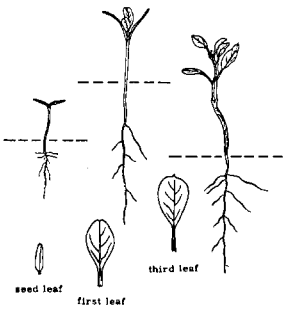
PROSTRATE KNOTWEED
(Polygonum aviculare)



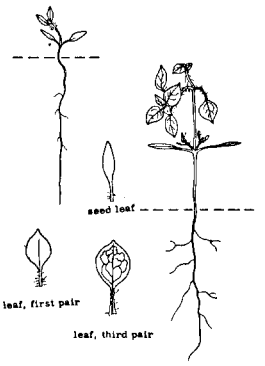
ERECT KNOTWEED
(Polygonum erectum)



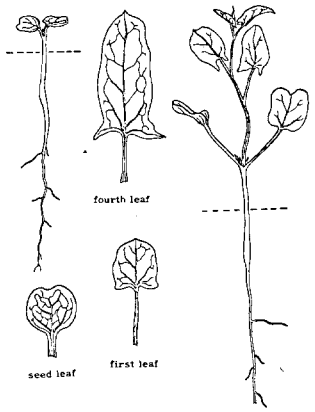
REDROOT PIGWEED
(Amaranthus retroflexus)



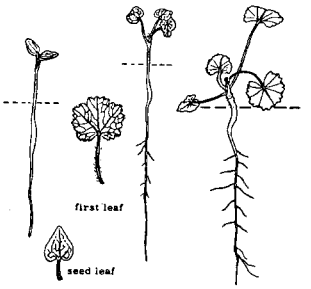
PROSTRATE PIGWEED
(Amaranthus blitoides)



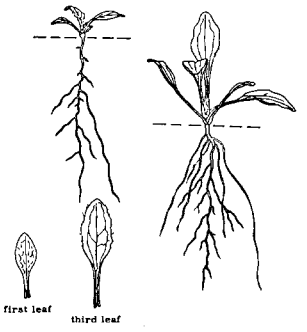
COMMON CHICKWEED
(Stellaria media)



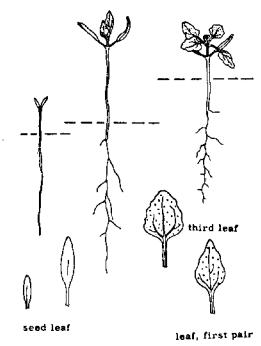
FIELD BINDWEED
(Convolvulus arvensis)



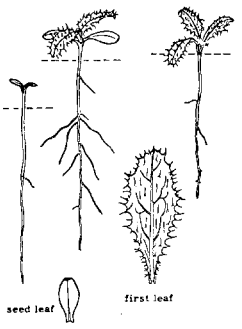
DWARF MALLOW
(Malva rotundifolia)



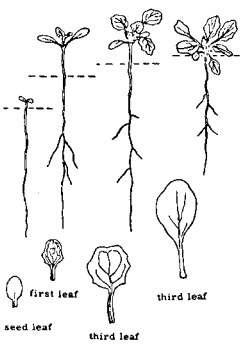
BROADLEAF PLANTAIN
(Plantago major)



COMMON LAMBSQUARTERS
(Chenopodium album)



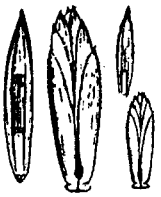
CANADA THISTLE
(Cirsium arvense)



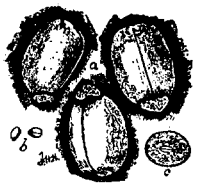
FIELD PENNYCRESS
(Thlaspi arvense)

SOME COMMON WEED SEEDS


Wild Oats


Quackgrass


Field Bindweed


Leafy Spurge


Prickly Lettuce


Canada Thistle


Witchgrass


Yellow Foxtail


Green Foxtail


Barnyardgrass

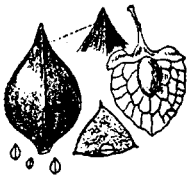

Prostrate Knotweed


Marshelder


Sunflower

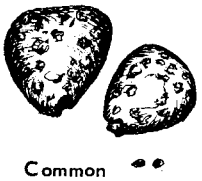

Wild Buckwheat

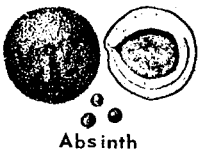

Nightflowering Catchfly


Curly Dock


Wild Mustard

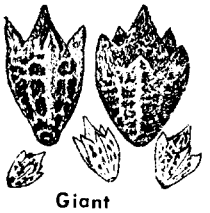

Flixweed


Common Purslane


Absinth Wormwood


Redroot Pigweed


Tumble Pigweed


Giant Ragweed


Common Ragweed


Perennial Sowthistle


Field Pennycress


Tumble Mustard


Wild Rose


Russian Thistle

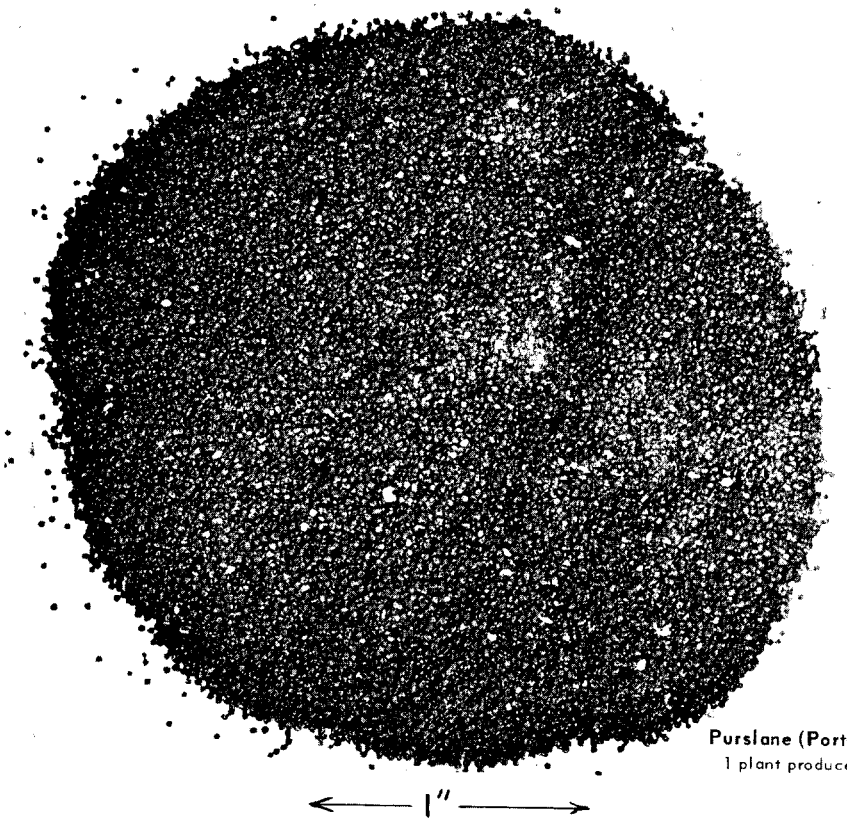

Common Lambsquarters

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	Oat, Wild	250	17.5	1,600
Catchfly,				Pennycress, Field	7,040	0.8	35,400
Nightflowering	1,800	0.8	35,400	Pepperweed	6,000	0.25	113,400
Cinquefoil, Rough	48,600	0.13	218,000	Pigweed, Prostrate	14,600	0.95	30,000
Coneflower, Prarie	7,000	0.4	70,700	Pigweed, Redroot	117,400	0.38	74,600
Dandelion	15,000	0.5	56,700	Pigweed, Tumble	129,000	0.23	123,300
Dock, Curly	29,500	1.4	20,200	Plantain, Common	36,150	0.2	141,700
Dodder, Field	16,000	0.8	35,400	Purslane, Common	52,300	0.13	218,000
Dodder, Hazel	7,000	2.2	12,900	Ragweed, Common	3,380	3.9	7,200
Dragonhead	49,600	2.6	10,900	Ragweed, Giant	1,650	17.4	1,600
Eveningprimrose	118,500	0.3	94,500	Shepherdspurse	38,500	0.1	283,500
Flixweed	75,650	0.12	236,000	Smartweed, Pale	19,300	1.5	18,900
Foxtail, Green	34,000	1.5	18,900	Sowthistle, Perennial (one stem)	9,750	0.4	70,500
Foxtail, Yellow	6,420	4.2	6,700				
Goldenrod, Rigid	3,290	0.5	56,700	Spurge, Leafy (one stem)	140	3.5	8,100
Gumweed	29,700	0.6	47,200				
Hemlock, Water	5,500	1.5	18,900	Spurge, Thymeleafed	2,670	0.3	94,500
Knotweed	6,380	0.7	40,000	Stinkgrass	82,100	.075	375,000
Lambsquarters, Common	72,450	0.7	40,000	Sunflower, Common	7,200	6.6	4,300
Lettuce, Prickly	27,900	0.5	56,700	Sunflower, Maximilian	2,600	2.2	12,900
Mallow, Dwarf	47,500	1.3	21,800	Thistle, Canada (1 stem)	680	1.6	17,700
Marshelder	82,150	1.2	23,600	Thistle, Russian	24,700	1.7	16,700
Mullein, Common	223,200	0.09	315,000	Witchgrass	11,400	0.6	47,200
Mustard, Dog	8,480	0.4	70,500	Wormwood, Biennial	1,075,000	0.07	375,000

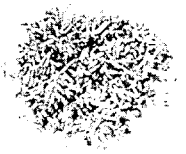
The above table, The Number and Weight of Seeds Produced by Weeds by O. A. Stevens, is compiled from a more detailed report on North Dakota weed seeds in the American Journal of Botany for November, 1932.



Purslane (Portulaca oleracea)
1 plant produced 52,300 seeds

1"

Biennial Wormwood (Artemisia biennis)
1,000 seeds to show size



Toad Rush (Juncus bufonius)
1,000 seeds to show size

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