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## EC77-199 Hay Fever Plants of Nebraska

John D. Furrer

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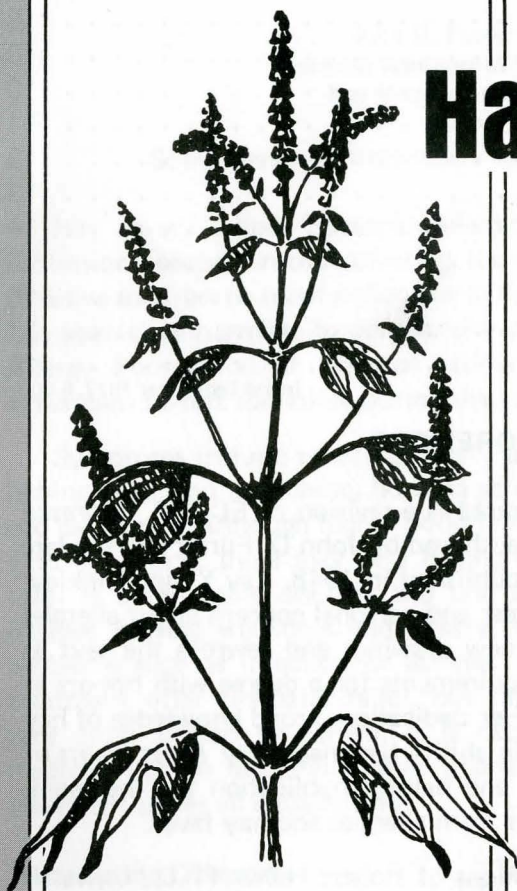
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# Hay Fever Plants

*OF*  
**NEBRASKA**

Extension work in "Agriculture, Home Economics and subjects relating thereto," The Cooperative Extension Service, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln, Cooperating with the Counties and the U.S. Department of Agriculture  
Leo E. Lucas, Director

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## FOREWORD

*Hay Fever Plants of Nebraska* is a revision of EC 176, *Nebraska Hay Fever Weeds*, originally authored by John D. Furrer and the late E.L. MacQuiddy, M.D., and published in 1948. Kay Young Hinkley, who has had a life long interest and personal concern about allergies and hay fever plants, made new drawings and rewrote the text as partial fulfillment of the requirements for a degree with honors at the University of Nebraska. Her dedication, broad knowledge of hay fever and allergies, and artistic ability has made *Hay Fever Plants of Nebraska* a truly interesting and helpful publication for the many thousands who annually suffer from allergies and hay fever.

The assistance and suggestions of Robert Haller, Ph.D., University of Nebraska Department of English, Robert Lommasson, Ph.D., University of Nebraska Department of Botany, Irving Kass, M.D., Larson Professor of Internal Medicine, University of Nebraska Medical Center, Fred Kiechel, M.D., University of Nebraska Health Center and Leon Rottmann, Ph.D., University of Nebraska Department of Human Development and the Family, are gratefully acknowledged.

John D. Furrer  
Extension Agronomist



# Hay Fever Plants of Nebraska

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Kay Young Hinkley

## Some General Information About Hay Fever

Hay fever, called "seasonal allergic rhinitis," by the medical profession, causes untold suffering for millions of people who are sensitive to airborne plant pollens or mold spores. These same pollens and spores are harmless to people who are not allergic to them. The Allergy Foundation of America estimates that one out of fifteen Americans suffers sometime during the year with hay fever.

Symptoms include sneezing, stuffy or running nose, swollen and itching eyes, and an itching, burning sensation of the palate, throat, and ear canals. Although higher body temperatures are not associated with the attack, there may be a feeling of weakness or fatigue. Hay fever is a miserable disorder and one that should not be ignored. Besides causing weakness and misery, it can lead to other serious problems such as infection or asthma. Recent advances in medical treatment offer dramatic relief, but since symptoms and allergens vary from person to person, it is necessary to seek professional medical help to determine what treatment is best to use. No one treatment serves all equally well.

## Early Spring Offenders

Beginning about the first of March tree pollens are the major cause of hay fever in Nebraska. The flowers of wind-pollinated trees such as maples, elms, and oaks are so small and inconspicuous that most people are unaware of their flowering. Many affected people believe that they are suffering from a bad cold. Fewer people are sensitive to tree pollens than to weed pollens, but for those who are, the symptoms are usually very intense.

Tree pollens usually disappear from the air in mid-May. About this time grasses and certain weeds begin to release their pollen into the air. It should be emphasized that not all grass and plant pollens cause hay fever. Those people who are allergic to some hay fever pollens are not necessarily allergic to other hay fever pollens.

### **Late Spring and Summer**

Summer hay fever is sometimes called "rose fever" because of the belief that it is caused by sensitivity to rose blossoms. Actually, roses and other large, colorful, fragrant flowers, which must depend on attracting bees for pollination, cannot cause hay fever unless one comes into close contact with them. Even then, such cases are rare.

It is the small inconspicuous flowers of wind-pollinated plants which release the tremendous amounts of light, buoyant pollen that cause hay fever. This pollen is sometimes carried by wind currents for several hundred miles. The pollen of some wind-pollinated plants is more highly allergenic than others. More people seem to be affected by the late summer and fall flowering plants.

### **Late Summer and Fall**

As fall approaches, a conspicuous flower, this time the goldenrod, is wrongly assumed to be a major cause of hay fever. Goldenrod is an indicator plant of hay fever—it comes into bloom at the same time as many of the big offenders illustrated in this publication begin producing pollen.

In addition to pollen, mold spores are an important factor in fall hay fever. It is at this time that their incidence in the atmosphere is the highest. Unlike pollen production and distribution, the mold spore problem is not ended by a hard frost. Mold-sensitive people may experience symptoms for a number of weeks after pollen-sensitive people are relieved.

Of course, it is impossible to avoid breathing pollens and spores when they are in the air, but with medical treatment and by avoiding excessive amounts of allergens many hay fever sufferers reduce the severity of their symptoms.

## **Avoid Allergens**

Persons with spore allergy may be improved by staying out of barns and places where straw and hay are stored, and by avoiding such activities as mowing grass and raking leaves. Most grasses, hays, and grains make excellent media for fungi and molds.

Pollen-sensitive people should avoid physical contact with hay fever plants during pollination. For example, giant ragweed sheds its pollen in such large amounts that the lower leaves and the ground below the plant appear to be covered with yellow dust. This "dust" is actually pollen. A person brushing into such a plant inhales many more times the amount of pollen that he or she would otherwise encounter. Children at play, fishermen, bird watchers, campers and others often realize that they have come into contact with something that has exaggerated or precipitated an attack of hay fever. Seldom however, are they able to determine what it is.

## **Know the Offenders**

This pamphlet has been prepared with the hope that identification of the late summer and fall hay fever plants may help hay fever victims avoid the plants that cause them added distress. There is also a psychological benefit in knowing which plants are hay fever plants and how to recognize them when they are pollinating. Many people, particularly children, aware that some outdoor plants can cause them misery, become unduly afraid of all plants. They may even become uneasy about being outdoors.

Finally, it should be noted that seasonal activities, such as spring or fall house cleaning, and seasonal or holiday foods can cause symptoms which may be mistaken for pollen or mold spore allergy. Hay fever symptoms which persist throughout the year (perennial allergic rhinitis) are usually not caused by pollens, but rather by such allergens as house dust, animal danders, feathers, cosmetics, foods, or chemicals. (Selected chemicals used in office duplicating processes and even constituents in prescription and over-the counter medications sometimes cause hay fever symptoms.)

Hay fever is only one of many forms of allergy. More information about hay fever and allergies in general can be obtained



by writing to the following organizations:

Allergy Foundation of America  
801 Second Avenue  
New York, NY 10017  
National Institute of Public Health  
Bldg. 31, Rm. 7a-32  
Bethesda, MD 20014

Superintendent of Documents  
U.S. Government Printing Office  
Washington, DC 20402

## Giant Ragweed *Ambrosia trifida* L.

Other Common names: kinghead, big ragweed

Giant ragweed is an annual reproducing from seed. The plant grows 4 to 10 feet high and is very coarse and rough. The large, opposite leaves are usually three or five-lobed (occasionally unlobed) and slightly hairy.

The numerous pollen-producing male flowers are borne in very small inverted clusters on the tips of the branches and stem, the female flowers are borne in the axils of the upper leaves. Pollen is produced from mid-July into September, but pollen may be present in the atmosphere until frost.



Giant ragweed grows throughout the state on both cultivated and uncultivated ground, preferring moist bottomlands. It is especially common along roadsides and ditches in central and eastern Nebraska.



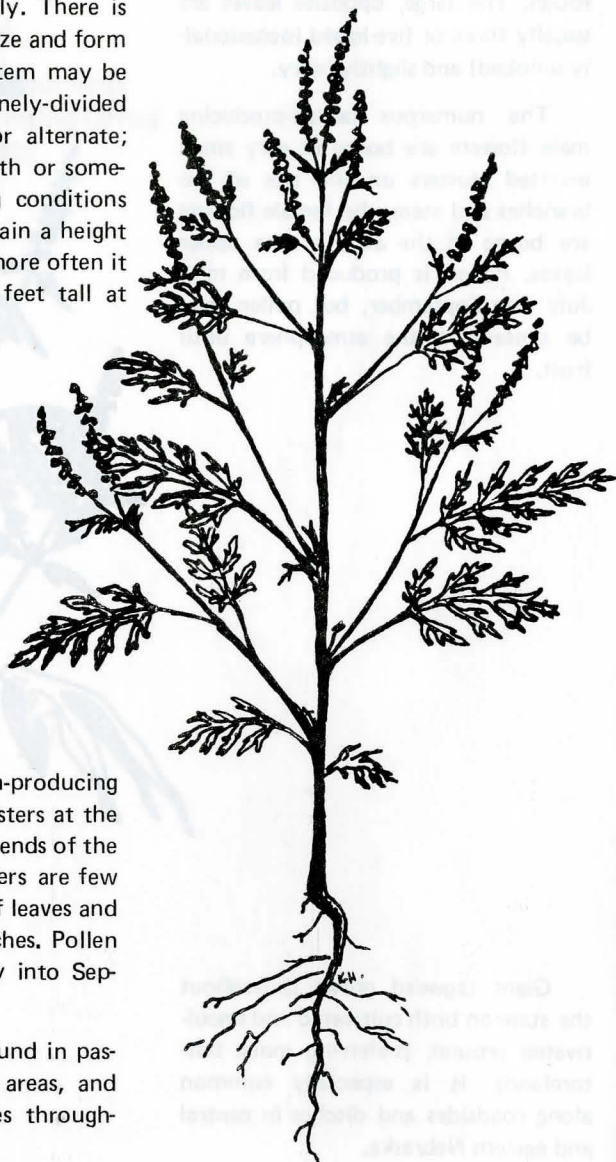
## Common Ragweed *Ambrosia artemisiifolia* L. (*A. elatior* L.)

Other common names: annual ragweed, short ragweed

Common ragweed is an annual reproducing from seed. Usually the stout, shallow root can be pulled out of the ground rather easily. There is considerable variation in size and form within this species. The stem may be simple or branched. The finely-divided leaves may be opposite or alternate; they may be nearly smooth or somewhat hairy. Poor growing conditions can cause the plant to attain a height of only a few inches, but more often it grows from one to four feet tall at maturity.

The small male pollen-producing flowers are in inverted clusters at the top of the stem and at the ends of the branches. The female flowers are few and are borne at the base of leaves and in the forks of upper branches. Pollen is produced from late July into September.

Common ragweed is found in pastures, fields, yards, open areas, and along roadsides and ditches throughout the state.



**Western Ragweed** *Ambrosia psilostachya* D.C. (*A. coronopifolia* T. & G.)

Other common name: perennial ragweed

Western ragweed is a perennial reproducing by seed and underground rootstock. It closely resembles common ragweed in above-ground appearance and form, but is usually shorter, more coarse, and difficult to pull from the ground.

The male pollen-producing flowers are in inverted clusters at the tips of the branches. Female flowers are few and occur in the axils of the upper leaves. Pollen is produced from late July into September.

Western ragweed is found in pastures, fields, open areas, and along roadsides and ditches throughout Nebraska but is somewhat more common in the western part of the state.



## Hemp *Cannabis sativa* L.

Other common names: wild hemp, marijuana, pot, grass

Hemp is an annual reproducing by seed. The plant has a coarse, branching main stem from 2 to nearly 10 feet high at maturity. The leaves are palmately compound with five to seven rough-margined leaflets.

Male and female flowers are produced on separate plants. The pollen-producing male flowers are borne in long clusters in the axils of the upper leaves. At this time these plants differ considerably from the plants producing female flowers and seeds. Pollinating plants grow quite tall and have fewer leaves. Soon after the pollen is shed the entire plant turns pale yellow and dies. Pollen is produced from late July into September.



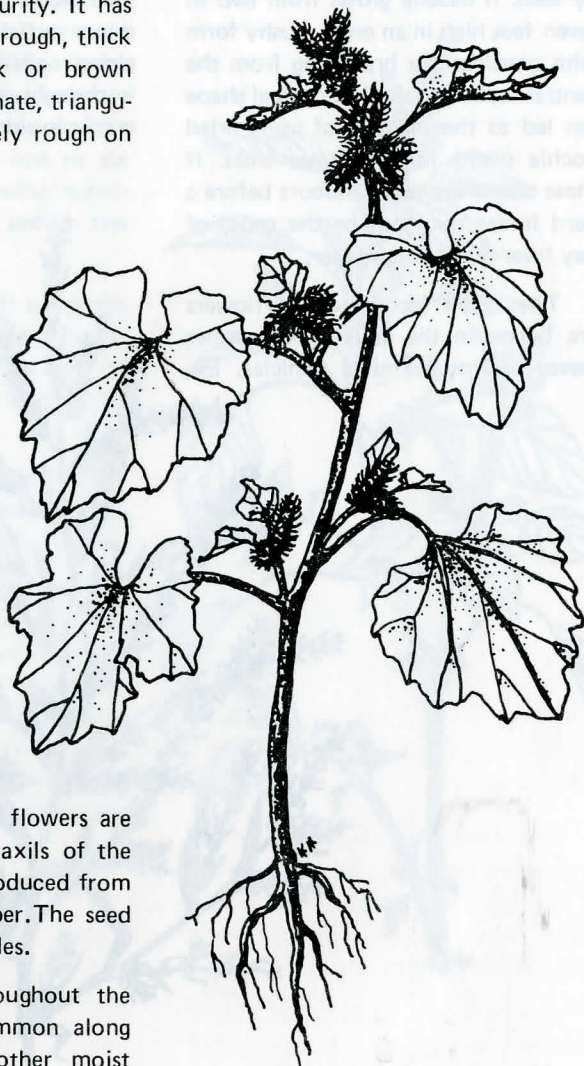
Hemp grows along ditches, streams, roadsides, fences, and in fields and open areas where the soil is moist. It occurs throughout the state, but is most common in the eastern part.



## Common Cocklebur *Xanthium Pensylvanicum* WallrL.

Other common names: clotbur, sheepbur

Cocklebur is an annual reproducing by seed. The plant grows from one to three feet tall at maturity. It has spreading branches and a rough, thick stem with distinct black or brown spots. The leaves are alternate, triangular in shape, and extremely rough on both sides.



The male and female flowers are borne in clusters in the axils of the upper leaves. Pollen is produced from late July through September. The seed is a bur with hooked prickles.

Cocklebur grows throughout the state. It is especially common along streams and ponds or other moist areas, but may be found in pastures, open areas, and cultivated fields. The young plants are quite poisonous to livestock.

## ***Kochia Kochia scoparia* (L.) Shrader**

Other common names: Mexican fireweed, fireweed, burning bush, tumbleweed

Kochia is an annual reproducing by seed. It usually grows from two to seven feet high in an erect, bushy form with considerable branching from the central stem. The bushy, conical shape has led to the practice of using dried kochia plants for Christmas trees. If these plants are taken indoors before a hard freeze they can be the cause of hay fever during the winter.

The small inconspicuous flowers are borne in the axils of the upper leaves and on terminal panicles. Ex-

Kochia is one of the most widely-distributed weeds in Nebraska. It grows in fields, open areas, yards, and along roadsides, fences, and ditches. It is drought-resistant and will grow in cracks in sidewalks and pavement.



tremely large amounts of pollen are produced from late July through September, with some production until frost.

## Redroot Pigweed *Amaranthus retroflexus* L.

Other common names: rough pigweed, green amaranth, pigweed\*

Redroot pigweed is an annual reproducing from seed. It has a rough, hairy central stem and may be branched. The leaves are ovate in shape and rough. The thick, fleshy root is shallow and has a distinctly rosy color. Redroot pigweed usually attains a height of from one to six feet, but under poor growing conditions it may pollinate at only a few inches.

The small green flowers are borne in densely aggregated clusters in the upper leaf axils and at the ends of stems and branches. Pollen is produced from July into September.

Redroot pigweed is widely distributed throughout Nebraska, growing in yards, gardens, cultivated fields, and along fences and roadsides.

Smooth pigweed, *Amaranthus hybridus* L., is similar to redroot pigweed, but the stem and leaves are darker green and have a smooth shiny appearance. Smooth pigweed is not as common as rough pigweed, but can be found in various places throughout the state.



\*Tall waterhemp, *Amaranthus tuberculatus*, is also commonly called "pigweed."



**Marshelder *Iva xanthifolia* Nutt.**

Other common names: burweed marshelder, false sunflower

Marshelder is an annual reproducing from seed. It generally reaches a height of from four to eight feet at maturity, but may be considerably shorter if growing conditions have been poor. The heavy stem may be moderately branched and is light grayish-green in color as are the large rough leaves. The leaves are mostly opposite.



The small numerous clusters of flowers are borne in panicles at the tip of the stem and in the axils of the upper leaves. Pollen is produced from July into September.

Marshelder is found throughout Nebraska, but is more common in the central and western part of the state. It grows on moist bottomland, along roadsides, ditches, and streams. It is less common in cultivated fields.

## Woolyleaf Bursage *Franseria tomentosa* A. Gray

Other common names: bursage, bur ragweed, white ragweed, creeping ragweed, whiteweed

Bursage is a perennial which reproduces by seed and deep underground rootstocks. The plant grows from one to three feet high and is much branched. Both the upper and lower surfaces of the leaves are covered with fine, soft hairs giving the plant a grayish-white appearance.

The pollen-producing flowers are borne in small drooping heads along the tips of the branches. Pollen is produced from July into September.

Skeletonleaf bursage, *Franseria discolor* Nutt., also called bursage and bur ragweed, is similar to the above species, but the upper surface of the leaves may be nearly smooth or cov-

ered with short, stiff hairs so that the leaves appear green on top and grayish-white underneath.

Bursage species grow along roadsides and in meadows, pastures, cultivated fields, and areas of poor drainage mainly in the south-central and western part of the state.



## Tall Waterhemp *Amaranthus tuberculatos* (Moq.) J. Sauer

Other common name: Pigweed\*

Tall waterhemp is an annual reproducing by seed. The plant may be from one to six feet high at maturity and is usually branched with smooth stems and leaves. It is often mistaken for smooth pigweed, *Amaranthus hybridus*, but the leaves of tall waterhemp are several times as long as they are wide. Unlike smooth pigweed, male and female flowers are borne on different plants.



The flowering spikes of small male or female flowers are borne in the axils formed by the leaves and stems. The male flowers produce extremely large amounts of pollen from July into September.

Tall waterhemp is found in moist ground throughout Nebraska. It is a common plant in fields, gardens, yards, and other cultivated places.

\*Redroot pigweed, *Amaranthus retroflexus*, and smooth pigweed, *Amaranthus hybridus*, are also commonly called "pigweed."



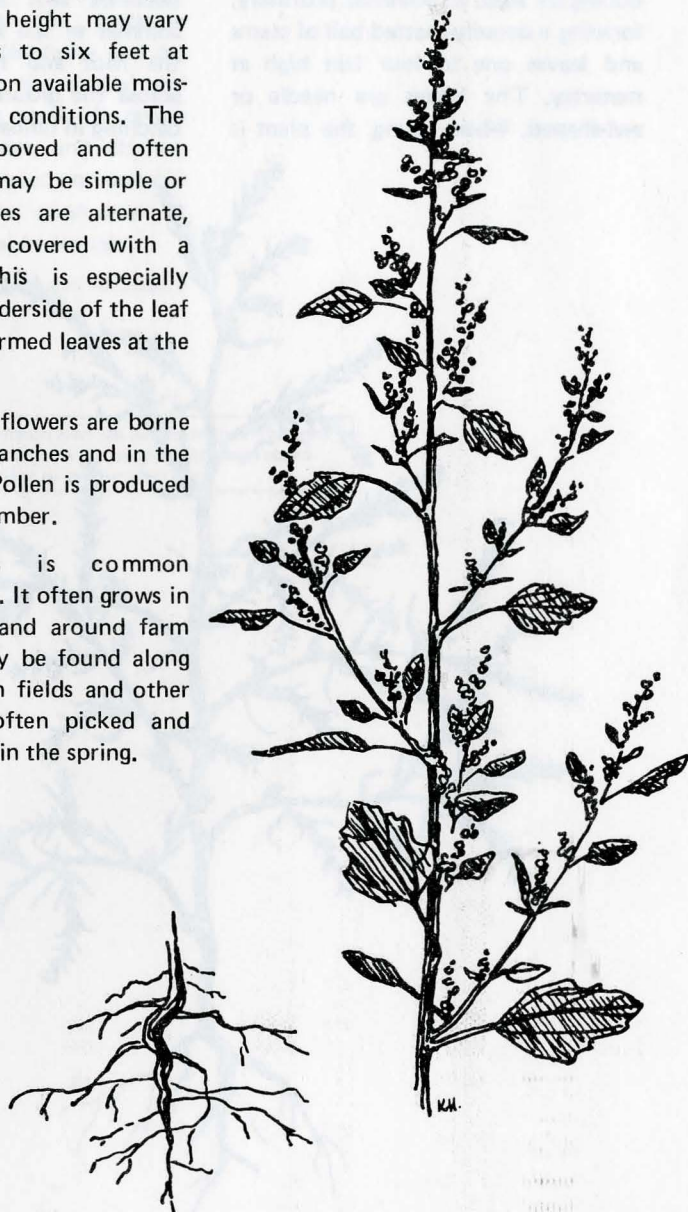
## Common Lambsquarters *Chenopodium album* L.

Other common names: wild spinach, white goosefoot, mealweed

Lambsquarters is an annual reproducing by seed. Its height may vary from a few inches to six feet at maturity depending on available moisture and growing conditions. The smooth stem is grooved and often tinged with red. It may be simple or branched. The leaves are alternate, angular-lobed, and covered with a mealy substance. This is especially noticeable on the underside of the leaf and on the newly formed leaves at the tips of the branches.

The small green flowers are borne at the tips of the branches and in the axils of the leaves. Pollen is produced from July into September.

Lambsquarters is common throughout the state. It often grows in yards and gardens and around farm buildings, but it may be found along ditches, roadsides, in fields and other open areas. It is often picked and cooked for "greens" in the spring.

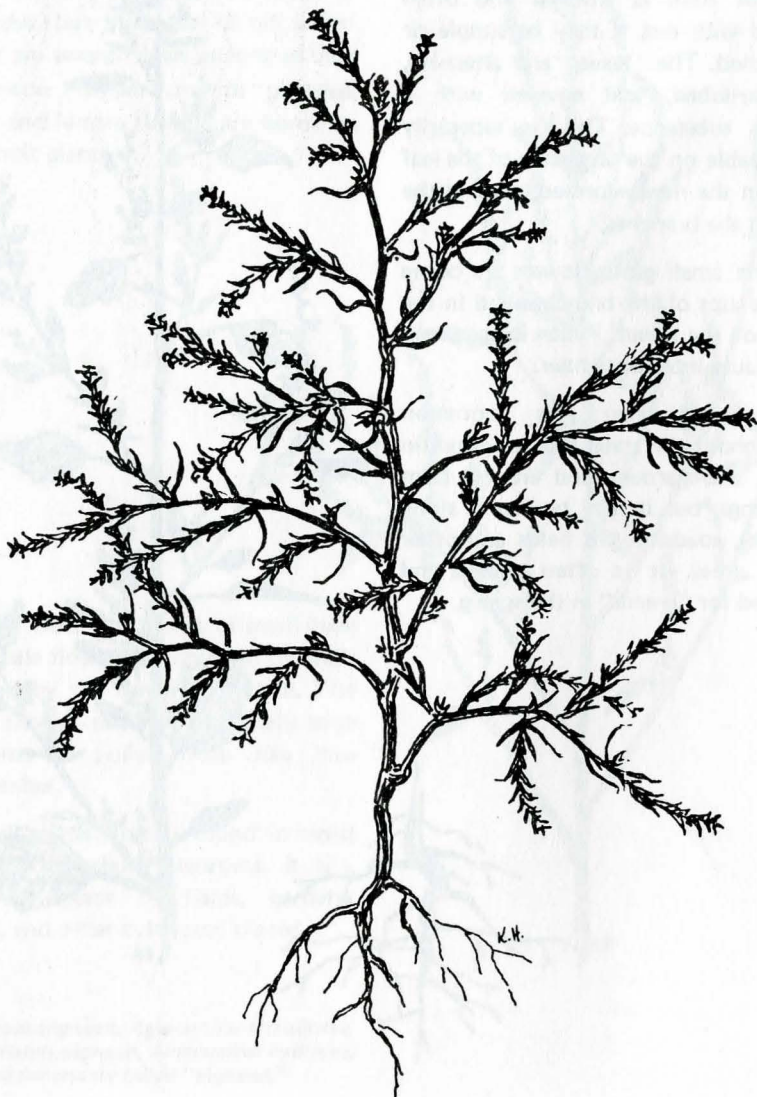


**Russian thistle** *Salsola kali* L. var. *tenuifolia* G.F.W. Meyer

Other common names: tumbleweed\*, saltwort

Russian thistle is an annual reproducing by seed. It branches profusely, forming a densely-matted ball of stems and leaves one to four feet high at maturity. The leaves are needle or awl-shaped. When young, the plant is

soft and succulent, but as it matures it becomes stiff and woody. In late summer or fall the stem breaks from the root and the plant is tumbled across the ground by the wind, often catching in fences.



The small, nearly inconspicuous flowers are borne in the axils of the leaves and stems. Pollen is produced from July into September.

Russian thistle is common throughout western Nebraska and occurs in open areas in the central and eastern part of the state. It grows along roadsides, fences, and ditches, and in pastures, cultivated and uncultivated fields, and other open areas. It will tolerate considerable drought.

\**Kochia*, *Kochia scoparia*, is also commonly called tumbleweed.

The Cooperative Extension Service provides information and educational programs to all people without regard to race, color or national origin.