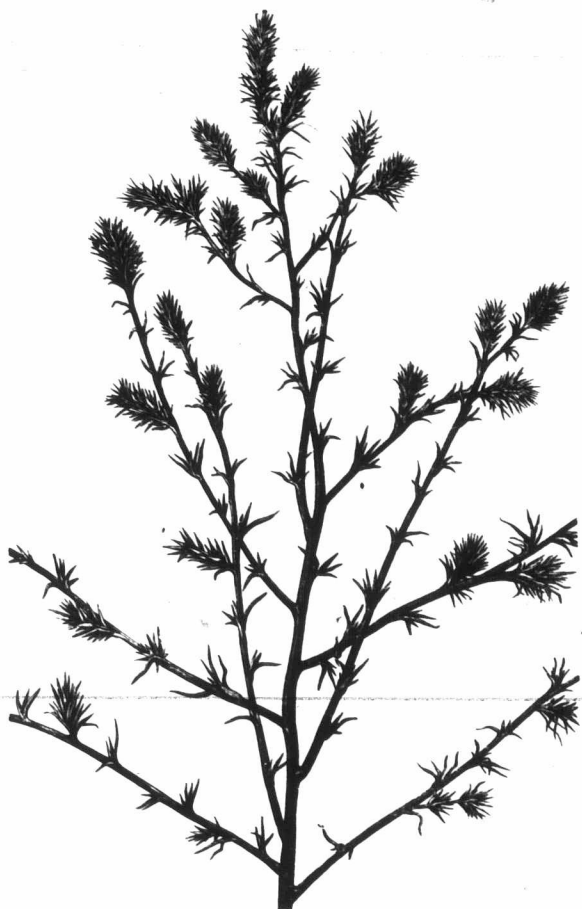


### The Russian Thistle.

In many parts of Dakota and Minnesota, the above-named weed seems to be causing considerable trouble; we do not know of its existence on this side of the line, although its near relative, the tumbleweed, is very bad in some parts of the West. We recommend a careful perusal of the following quotations from Bulletin No. 10., U.S. Department of Agriculture; all should be on the lookout for it in their fields or elsewhere.

#### NAME.

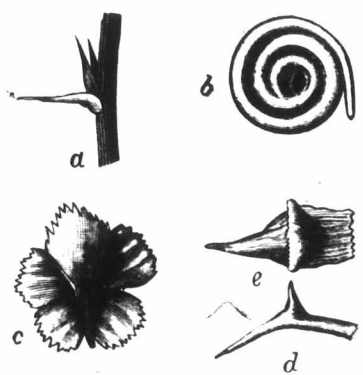
"The Russian thistle or Russian cactus is really neither a thistle nor a cactus. It is a saltwort, closely related to the tumbleweed, goosefoot, lamb's-quarters, and pigweed. Under any name, however, it is one of the worst weeds ever introduced into the wheat-fields of America. To the botanist it is known as *Salsola Kali* L. var. *Tragus* D. C. In some parts of Russia it is known as Tartar weed and Hector weed. Saltwort is its true English name, but to the farmers of the Northwest, who are best acquainted with the troublesome plant, it will probably continue to be known as the Russian thistle until finally exterminated."



RUSSIAN THISTLE BEFORE FLOWERING.

#### DESCRIPTION.

The Russian thistle is an annual, coming each year from the seed. It grows from a single small light-colored root less than half an inch in diameter and 6 to 12 inches long to a height of 6 inches to 3 feet, branching profusely, and when not crowded forms a dense bush-like plant 2 to 6 feet in diameter and one-half to two-thirds as high. When young it is a very innocent-looking plant, tender and juicy throughout, with small, narrow, downy, green leaves. When the dry weather comes in August



this innocent disguise disappears, the tender downy leaves wither and fall, and the plant increases rapidly in size, sending out hard, stiff branches. Instead of leaves these branches bear at intervals of half an inch or less three sharp spines, which harden but do not grow dull as the plant increases in age and ugliness. The spines are one-fourth to one-half inch long. At the base of each cluster of spines is a papery flower about one-eighth of an inch in diameter. If this be taken out and carefully pulled to pieces a small, pulpy, green body, coiled up and appearing like a minute green snail shell, will be found. This is the seed. As it ripens it becomes hard and of a rather dull gray color. At the earliest frosts the plants change in color from dark green to crimson or almost magenta, especially on the more exposed parts. When the ground becomes frozen and the November winds blow across the prairie the small root is broken or loosened and

pulled out. The dense yet light growth and circular or hemispherical form of the plant fits it most perfectly to be carried by the wind. It goes rolling across the country at racing speed, scattering seeds at every bound, and stopping only when the wind goes down or when torn to pieces, for there are few fences or forests to stop its course in the Dakotas.

The saltwort or Russian thistle appears more like the common "tumbleweed" (*Amarantus albus* L.) than any other plant in the Northwest. It may be readily distinguished from the tumbleweed by the sharp spines in clusters of three each, the absence of flat leaves, denser growth, darker color, and by the red color in the fall.



MATURE RUSSIAN THISTLE.

#### TROUBLESOMENESS.

A weed is only a plant out of place or a useless plant taking the place of something useful. The Russian thistle, although rather pretty when reddened in the fall, and useful for forage when young, is always a weed. It will take possession of a field to the exclusion of everything else, and it draws from the land a large amount of nourishment that might otherwise go to make useful plants. In these respects it merely partakes of the properties of all weeds, except that it spreads and multiplies more rapidly, and hence takes more space and more nourishment.



Some of its special characteristics render this thistle much more troublesome than other weeds. It is armed with spines quite as sharp and much stronger than those of common thistles. Because of these it is difficult to drive horses through a field where the plants are abundant. In some sections the farmers find it necessary to bind leathers about the horses' legs while at work. Horses running in the pasture are often injured by having the skin on their legs badly lacerated. The spines breaking off under the skin cause festering sores.

These sores are caused by the irritation, however, not by any poisonous property as is frequently supposed. Hunters find difficulty in getting their dogs to work well for prairie chickens in the stubble, and the dogs are sometimes injured by the sharp spines. Threshers find it almost impossible to get gloves thick enough to keep the spines out of their fingers, yet thin enough to work with.

The Russian thistle is the worst rolling tumbleweed on the prairie, and in time of prairie fires is easily blown across a fire-break of any width, carrying fire to stacks and buildings. The weeds bank

up against wire fences, causing them to be blown over by the force of the wind, and are sometimes carried into the groves on tree claims, making it impossible to cultivate. In this way, by forming a mulch, often several feet deep, they may do some good. When large and well developed they are bulky and stiff, making it very difficult to run harvesting machinery or even a plow. On railroad grades they prevent the growth of grass and other plants that would keep the banks from washing.

#### ORIGIN.

The Russian thistle originated in eastern Europe or western Asia. It has been known in Russia many years, and has quite as bad a reputation in the wheat regions there as it has in the Dakotas. It was introduced in Bonhomme County, S. Dak., about fifteen years ago. Reports differ as to the method of its introduction. There is little doubt, however, that it was first brought there in very small quantities in flaxseed which was imported from Europe. There is evidently no foundation whatever for the theory, which is too often related as a fact, that it was first sown in South Dakota by immigrants either for forage or to inflict an injury on an enemy. The few plants grown from the foreign seed grew, produced seed, and increased slowly and almost unnoticed until about seven years ago (1886). They were then thoroughly acclimated and naturalized, and seem to have partaken of the conquering spirit of the West.

#### CONDITIONS FAVORABLE OR UNFAVORABLE TO GROWTH.

Russian thistles grow best on high and dry land, where they are not too much crowded by other plants. They are seldom seen in sloughs or low land, and make no progress in the native prairie, except where the sod has been broken by badger burrows, or by overfeeding and tramping of cattle on some of the ranges. They are less numerous and robust in wet seasons than in dry ones, not so much because they can not stand wet weather, but because they are more crowded by other plants. Some Russian thistles growing on the bank of an irrigating ditch, with their roots almost in the water, made a larger and more vigorous growth in the dry season of 1891 than others about them in dry soil. At Minneapolis, in 1892, the rainfall was 45 inches before the end of September, yet the few thistles there were growing well.

The thistles appear to grow equally well in alkaline soil and in soil that is not alkaline at all. So far as the amount of rainfall or alkaline quality of the soil is concerned the Russian thistle may grow anywhere in the temperate zone.

The absence of trees and fences, the strong winds, and the methods of farming are particularly favorable to its distribution and growth in the Northwest. Wheat after wheat, with an occasional barren (or weedy) fallow, but no cultivated or hoed crops, gives but little opportunity to clear the land of troublesome plants. A few very profitable crops have induced the farmers to break up more land than they can work well. Wheat is sown over a large number of acres, sometimes merely drilled in on the furrow, or even in unplowed stubble land, and very frequently sown with insufficient cultivation of the soil. Where whole sections or even townships are one continuous wheat field, an acre here and there grown up to weeds, so as to be not worth the harvesting, does not seem to cut much figure in the total amount, and the weeds are allowed to grow and ripen seed to cover a larger area the next year. The thistles begin to grow large and coarse and to ripen seed soon after the harvest; but at this time, when they most need attention, the farmer finds it difficult to get help enough to secure his wheat crop, and the weeds are left to take care of themselves, which they do to perfection.

Plowing in the spring or early summer is especially favorable to the growth of the Russian thistles, since they can get a good start in July, and, being able to stand dry weather better than other plants, they take complete possession of the soil. Land broken up in spring or early summer is liable to be covered with the plants in August, for the seed is everywhere in the prairie grass and only waits for the sod to be broken that it may grow.

A hard frost early in the fall kills many Russian thistles before the seeds are ripened and therefore reduces the number of plants the following season. The comparative decrease in the number of plants during the present season is doubtless due to an early frost in the fall of 1891. The small size and less vigorous growth is due to the excessive rains early in the season.

#### WILL NOT RUSSIAN THISTLES DIE OUT OF THEMSELVES?

This question is frequently asked, and there really seems to be some grounds for the hope. In every locality the plant is less troublesome in 1892 than it was the year before. Causes for this have just been given. In many instances it has been noticed that in small patches, where the ground has become thoroughly seeded with the pests, they come up too thick to grow in their ordinary spreading habit, and, becoming slender and spindling, are quite unfit to roll about as tumbleweeds. There is no record, however, of their becoming so thick over any large area that some plants did not find room to develop into very good tumbleweeds. What is true of small patches is only partially true of large areas.