

Yellow Nutgrass and Sedge

LAWRENCE JENKINS

E. R. JACKMAN



YELLOW NUTGRASS—*Cyperus esculentus*—Showing entire plant and underground "nuts."

Oregon State System of Higher Education
Federal Cooperative Extension Service
Oregon State College
Corvallis

Extension Bulletin 568

November 1941

Yellow Nutgrass and Sedge

By LAWRENCE JENKINS and E. R. JACKMAN*

Illustrations by Cathrine Davis Young

Yellow nutgrass (*Cyperus esculentus*) and *Cyperus strigosus*, which is commonly called sedge, are frequently found in the same general areas. There is considerable confusion about the two since they are similar in appearance. Their importance and nature of reproduction are different, but as they are both members of the sedge family and one is very often mistaken for the other, both are illustrated and discussed in this bulletin.

YELLOW NUTGRASS

(*Cyperus esculentus*)

Yellow nutgrass is a persistent perennial plant that reproduces usually by small tubers, hence the name "nutgrass." Seed is apparently unimportant in the spread of the plant as few live seeds are produced, and in many sections none whatever. This weed is common in commercial bulb-growing sections in southern Oregon and is occasionally found in other parts of western Oregon. The "nuts" of this weed are similar in size to planting stock of some of the flower bulbs and may be planted with them unnoticed.

Yellow nutgrass occurs in cultivated gardens, occasionally in grain fields, in rich sandy soils, or in soils with poor drainage. The plant grows erect, from 12 to 18 inches tall. This is not a true grass, but, as mentioned earlier, is a sedge. Unlike grasses, the stems are triangular and about $\frac{1}{4}$ inch in diameter. Leaves are long, from $\frac{1}{4}$ to $\frac{3}{8}$ inch wide, and coarse. They are produced overlapping the stem, progressively up from the base. Each plant has a straight, unbranched stem, bare except for a whorl of leaves at the tip. Seed is golden brown and is borne on slender branches arising at the tip of the stem, which is also the center of the top whorl of leaves. The nuts, or, more correctly, the tubers, are dark brown to black, hard and small, and rarely more than $\frac{1}{2}$ inch in diameter. These tubers are produced underground, often in chains that resemble a rope with knots tied in it every inch or so—the knots representing the tubers and the rope between representing the rhizomes of the plant. Lateral chains may develop from the main chain.

Careful experiments were conducted by the Alabama Experiment Station on a nutgrass similar to ours that grows in that state.† The Alabama workers found that the terminal nuts in the chain are the ones that produce most of the new plants. The other nuts are more or less dormant. Individual nuts planted gave new plants in nine out of ten cases. When three short chains of three nuts each were planted, all of the terminal but none of the intermediate nuts sprouted.

New tubers may be formed in about 3 weeks. In a greenhouse trial in Alabama a single tuber produced a system of 146 tubers and basal bulbs in 3½ months. Basal bulbs are formed at the junction of the rhizomes and the leaves when a new plant is produced. Most of the nuts are produced in the surface 8 inches of the soil. On limited observations in Oregon no nuts have been found below 12 inches.

* E. R. Jackman is Extension Specialist in Farm Crops and Lawrence Jenkins is Assistant Extension Specialist in Farm Crops at Oregon State College.

† Journal of the American Society of Agronomy, Volume 29, Number 12, December 1937.

Control. The results obtained by experiments in Alabama should help materially in working out control measures in this state. Results there help explain why cultivation at first seems to stimulate the production of new plants. These chains of tubers are broken up by cultivation, and the tubers or nuts that were dormant in the center of the chain become active and produce new



SEDGE—*Cyperus strigosus*—Showing entire plant and nature of root growth.

plants. The quicker these chains are broken and each tuber made to send up a new shoot, the quicker the infestation can be controlled by cultivation. If the tops are merely cut off or cultivation is shallow, many of these chains will

not be broken and the tubers will remain dormant for many years. The land should be deep plowed and cultivated frequently to break up the chains and cause all of the tubers to sprout, thereby exhausting their stored food supply. Each cultivation should be as deep as possible. Cultivation should be confined to the actual area infested to prevent spreading the tubers to other sections of the field.

Small areas can be treated with sodium chlorate or carbon bisulphide. The chlorate should be applied dry at the rate of 2 to 3 pounds to the square rod at the time of year when from 5 to 10 inches of rain may be expected the balance of the season. If put on earlier than this, in most soils the chemical will be washed out of the top soil, where the tubers are, before a kill is completed. If carbon bisulphide is used, the area should be covered with tar paper to confine the gases in the shallow root zone. Farmers growing flower bulbs should be very sure that their planting stock does not contain tubers of yellow nutgrass.

SEDGE

(*Cyperus strigosus*)

This sedge is a member of the same family as yellow nutgrass and is often confused with it. The plant is generally found in wet places such as damp meadows, swamps, and low fields. It reproduces by seed and new shoots from fleshy crowns and does not possess any underground hard tubers as does yellow nutgrass. Hence it is not so difficult to eradicate. Stems are triangular and erect, commonly about the same height as yellow nutgrass. Leaves are similar, mostly basal, flat, and soft. Flowerheads are borne at the tip of the stem on slender branches. The bare spikelets are similar to nutgrass, but often a little wider and more dense. The easiest way to distinguish between the two plants is that this one does not have underground tubers or nuts.

Control. Sedge grows only in wet land and can be controlled by drainage, followed by a period of summer fallow. After draining the land, such crops as grain and peas or vetch might be planted on the area in the fall or early spring and harvested for hay, followed by dry plowing and summer fallow the balance of the season. If drainage is impossible, control is usually impracticable. Detailed discussion on control of perennial weeds will be found in Extension Bulletin 510.

This is one of a series of 39 bulletins discussing 58 perennial weeds in Oregon and their control. A list of bulletins in this series will be found on the last page of Extension Bulletin 510. The individual bulletins are punched so that several may be bound together if desired.

ACKNOWLEDGMENTS: The authors thank Dr. Helen M. Gilkey, Curator of the Herbarium, for reading the manuscript and checking the descriptions of the plants. Professor G. R. Hyslop, In Charge, Division of Plant Industries, made many helpful suggestions.

Cooperative Extension Work in Agriculture and Home Economics
Wm. A. Schoenfeld, Director

Oregon State College and United States Department of Agriculture, Cooperating
Printed and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914