PNW353E

Longspine Sandbur

Cenchrus longispinus

Other names: sandbur, burgrass, fleld sandbur, mat sandbur, sandspur

INTRODUCTION

The sandbur or burgrass found in the Pacific Northwest is longspine sandbur, a warm-season, annual grass that may behave as a perennial in areas with mild winters. It disperses primarily by hitching rides with humans, animals, equipment, and irrigation water. This species of sandbur, unlike many of our weeds, is a North American native that has spread northward from its subtropical origins. Longspine sandbur, long found in scattered locations east of the Cascades, is now found west of the Cascades as well.

The common name, sandbur, refers to the fact that this grass is adapted to porous, sandy soils and has seed heads with spiny burs that easily detach from the racemes or stem when mature. The stiff spines on the burs can puncture and injure human skin and some bicycle tires. The burs also contaminate feeds and hay, reducing their palatability and acceptability to animals. The sharp burs can cause ulcers in the mouths of grazing animals, but animals can graze sandbur foliage before bur development. Snapbeans have been recalled from grocery stores due to burs contaminating the product. Seeds are easily spread because the burs cling to clothing, fur, feathers, machinery, tires, and skin. Water is also important for dispersal because burs float and may be carried for miles in irrigation ditches and other waterways.

IDENTIFICATION

Longspine sandbur may grow upright, but usually branch and spread out flat on the ground, often rerooting where nodes contact soil and forming a dense mat on the soil surface. The collar where the blade meets the stem does not have auricles, may be reddish at the base, and is tufted. The ligule consists of a very short

Sandbur seeds clinging to a denim pant leg

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fringe of hairs. The main stems vary from 10 to over 30 inches in length. Leaf blades are flat, 2 to 5 inches long, 1/8 to 1/4 inch wide, sometimes folded and tapered from the base to the end. The leaf sheaths are flattened and very loose. The racemes or seedhead have from 6 to 24 (usually 15–20) burs that are 1/8 to 1/4 inch thick, with sharp spines up to 1/4 inch long. Frequently, old burs can be found clinging to a root of young plants, which aids in distinguishing sandbur seedlings from other grasses. The root system of mature plants is fibrous and usually shallow.

BIOLOGY

Sandbur reproduces from seed that germinates from late March or early April throughout the summer. Each bur contains from one to three seeds. The largest or primary seed, located in the uppermost spikelet of the bur, germinates first. Secondary and tertiary seeds remain dormant longer. Seeds can emerge from soil depths of 5 inches. Light inhibits germination and may induce dormancy of seeds in burs on the soil surface.

Plants produce burs from July to October. In a study conducted at Washington State University Prosser Irrigated Agriculture Research and Extension Center, sandbur plants grown without competition produced over 300 tillers, up to 24 burs per raceme, and attained a diameter of 5 to 6 feet.

Sandbur thrives on sunny sites and frequently invades orchards, vineyards, cultivated

Mature sandbur plant

Sandbur inflorescence

Sandbur seedling

cropland, lawns, ornamentals, roadsides, and other disturbed areas.

CONTROL

Sandbur frequently moves into adjacent fields from road shoulders, fencelines, and other poorly vegetated areas. Controlling sandbur in these areas is the best method of preventing the weed from infesting cropland. Even if controlled, the seed may persist in the soil for several years.

Sandbur does not compete well in shaded conditions, so maintaining a dense crop canopy can help prevent invasion. Sandbur is not an aggressive competitor in good stands of adapted perennial crops, such as alfalfa and irrigated pastures. Most competitive forage crops may reduce, but not eliminate, seed production by established plants.

Take special care when establishing perennial crops in sandbur-infested areas. This includes fall seeding the crop when possible and using management techniques that will ensure rapid establishment of a dense, vigorous crop in the following spring and summer.

There are no biological control agents available for sandbur, and although mowing can stop seed production in the short term, plants can regrow and flower below the cutting height. Sandbur seedlings are easily controlled by shallow tillage, hoeing, or hand pulling. Repeated tillage that controls seedlings prior to seed set can reduce the seedbank over time.

Established plants may be controlled by using foliar-applied herbicides, such as imazamox (Raptor) or imazethapyr (Pursuit) when the plants are in the 1- to 2-leaf stage, glyphosate (Roundup or one of the generic glyphosate formulations), MSMA, fluazifop (Fusilade), sethoxydim (Poast), clethodim (Select), and paraquat (Gramoxone). A new flush of seedlings often appears following each rain or irrigation. Control these plants as well, unless the herbicide selected has sufficient soil persistence to suppress emerging seedlings.

Sandbur is tolerant to simazine (Princep) and diuron (Karmex) when these herbicides are used at lower rates that are selective in crops. Some soil-applied herbicides reported to prevent sandbur establishment are alachlor (Lasso/Micro-Tech/Intrro), benefin (Balan), DCPA (Dacthal), EPTC (Eptam or Eradicane), metolachlor (Dual), oryzalin (Surflan), napropamide (Devrinol), pendimethalin (Prowl/Pendulum), pronamide (Kerb), clomazone (Command), dimethenamid (Outlook), and trifluralin (Treflan). Consult the herbicide label for use instructions on specific crops, sites, and application rates.

Long-term soil residual herbicides used for bare ground treatments include diuron (Karmex or Direx), imazapic (Plateau), prodiamine (Endurance or Barricade), and diuron plus bromacil (Krovar). Application timing is important for effective control. Apply soil residual herbicides used for bare ground treatment in the late fall or early spring when rainfall can move the chemical into the soil. Too much moisture may leach the chemical beyond the germinating seedling zone and may result in poor control. Apply spring treatments of residual herbicides in February or early March, unless mechanical incorporation or sprinkler irrigation is available to move the herbicides into the soil with later applications.

To maximize long-term sandbur management, remove or destroy sandbur seedlings and plants and prevent further seed production and spread of populations.

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