

Speargrass

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When I graduated from vet school at Kansas State University in 1968, I had never heard of speargrass or its effect on dogs. Even a few years after I graduated, I talked to a professor of surgery at KSU and he had never heard of it.

Professional dog trainers Roy Jines and Lloyd Budd first introduced me to speargrass and its perils while visiting their summer camps near Emmett, Nebraska. Since that time, I have come to know quite a bit about this grass seed and its potentially fatal effect on both hunting and field trial dogs.

Speargrass (or needlegrass) is of the genus *Stipa* with four species in the continental United States. Porcupine grass and “needle and thread” are found in Canada and south into the central plains, including Nebraska, Kansas, Missouri, Illinois, and Ohio, and south into the plains of Oklahoma, Texas, and throughout the western states. Blackseed needlegrass occurs on the eastern seaboard into the southeast United States, including the major field trial areas. Green needlegrass occurs in the northern plains and southwest to the edge of the Rocky Mountains.

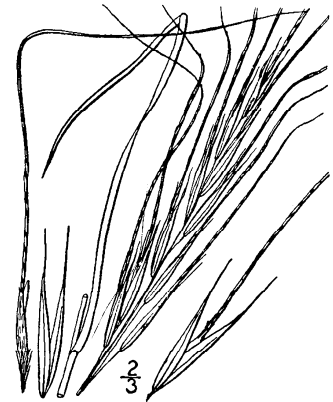
These grasses are native to the prairies of the Midwest and are not found in cultivated pastures, therefore this grass is only common in areas that have never been plowed. I sent spears (seeds) from speargrass that I found in native pastures in southeast Nebraska and northeast Kansas to John Rex Gates and Bud Daugherty. John Rex told me they were exactly the same as the speargrass he found in Canada. Bud told me they were different. Since there are three different needlegrasses in Canada and the Midwest, there can be variation on different grounds.

In Nebraska and Kansas, *Stipa* is an early maturing grass that flourishes during wet, cool springs. The grass is a tall whitish-yellow plant that stands out amidst the green of the later developing native grasses. The spears usually fall off during the first two weeks in July in Nebraska, but may fall later. Depending on spring weather patterns, the spears might fall as early as the first of July or as late as the end of July.

Some trainers have been known to advertise that there is no speargrass in the Nebraska sandhills. A few years ago, when I asked one of the newer trainers about speargrass he stated that there was none on his grounds. Then he asked me what it looked like. A few years later, he told me that he had to postpone training due to the spears. Some trainers are very aware of this noxious grass. Roy Jines, who trained in Canada with his uncle, Tom Lundsford, regards the speargrass as highly dangerous to his dogs, as do the Canadian trainers.

In the chapter entitled “Poisoning and Injury by Plants” in *Kirk’s Current Veterinary Therapy*, it is stated that

“perhaps the most frequent injuries are those produced from penetration of mucous membranes by grass awns and other floral parts. Members of the genus *Stipa* are most notable among this group owing to the extensive migration of its floral parts in animal tissues following penetration. The awn (seed) and anterior floret of some species possess retrose (posteriorly directed) barbs which prevent backward



Porcupine grass - Figure 1



Blackseed needlegrass -
Figure 2

movement and easy removal from the tissues. These foreign bodies have been removed from abscesses of the mouth, nasum, orbit, post orbitum, mediastinum, pericardium, spinal canal, bursae of joints, and elsewhere.”

Since symptoms may not develop for several months after exposure, it is possible that many dog owners may not be aware of the source of their dog’s problem. Every owner and trainer must decide for himself or herself if this is serious enough to consider during training periods.

Gerald DeGroff, founder of the DeGroff ranch in Brewster, Nebraska, told me that if hay is cut while the spears are still on the needlegrass that cows will develop sore mouths. The vets of the Sandhills do not report abscess problems in cows. This is probably because the cows do not readily consume the grass except when baled with other grasses. Haying is usually started after the spears have dropped because the other native grasses mature later in the summer.

It is evident that the needlegrass species grow in nearly all regions of field trial activity in the United States. It should be remembered that this is a native species of grass, thus it does not occur in cultivated fields and pastures that have been converted to tame grasses such as fescue, brome, and bermuda. Dangers of exposure are therefore highest in the range land of the northern, Midwestern, and southwestern prairies.

It should be noted that many other plants have barbed seeds and can produce similar lesions. Foxtail and cheatgrass are two that commonly cause problems in our area of the Midwest. When any of these awns enter through the oral cavity or skin of dogs, often an Actinomyces or nocardia infection is introduced. Also, other bacterial or fungal infections may be introduced via these foreign bodies. When an infection, either bacterial or fungal is introduced via these or other foreign bodies (dust, pollen, other plant material), the disease is far more serious.



Green needlegrass - Figure 3

Figure 1: Porcupine grass image courtesy of USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. 3 vols. Charles Scribner's Sons, New York. Vol. 1: 177.

Figure 2: Blackseed speargrass image courtesy of USDA-NRCS PLANTS Database / Hitchcock, A.S. (rev. A. Chase). 1950. *Manual of the grasses of the United States*. USDA Miscellaneous Publication No. 200. Washington, DC.

Figure 3: Green needlegrass image courtesy of USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. 3 vols. Charles Scribner's Sons, New York. Vol. 1: 176.