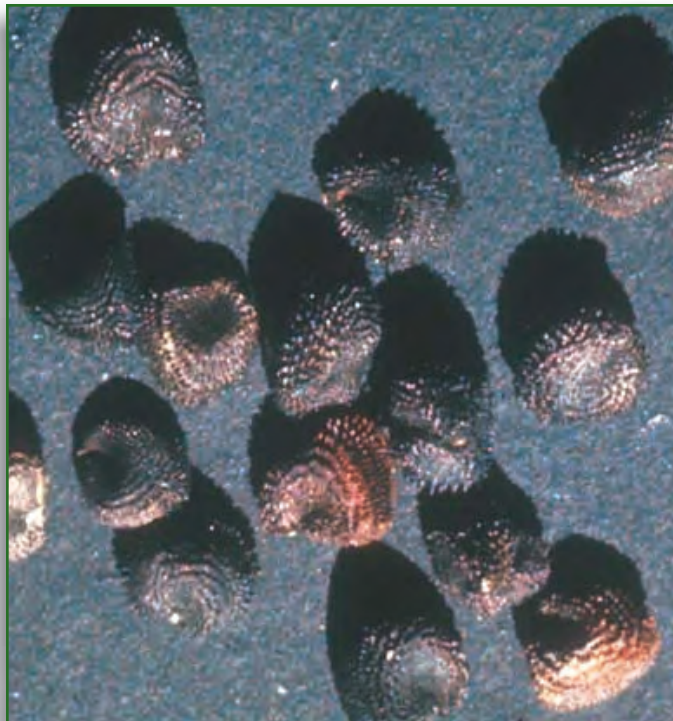


Weed Seeds

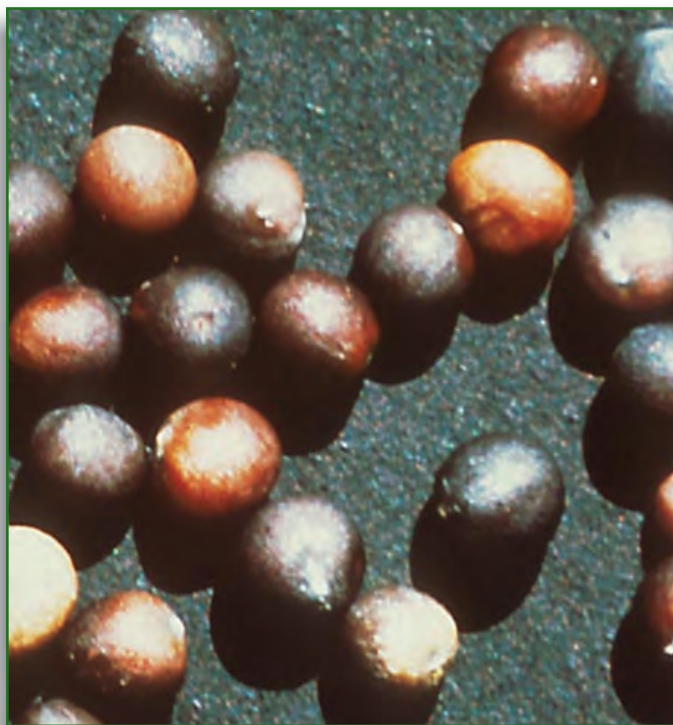
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Providing research-based information to Minnesota horse owners



Corn cockle seeds



Mustard seeds

Included: Corn Cockle Seeds, Mustard Seeds, and Eastern Black Nightshade Berries.

Scientific Names: Corn Cockle Seeds (*Agrostemma githago*), Mustard Seeds (*Brassica*) species, and Eastern Black Nightshade Berries (*Solanum ptycanthum*).

Origin: Introduced from Europe and Asia (corn cockle and mustard) and South America (eastern black nightshade).

Lifecycle: All are annuals reproducing from seed.

Identification: Weed seeds come in many shapes, colors, and textures. Corn cockle and mustard seeds are round or oval in shape, with a dark brown or blackish color. Eastern black nightshade berries are small, round, and turn from a greenish color to a dark purple or black color when ripe.

Distribution: All are found throughout the United States.

Habitat: All are found in cultivated fields, gardens and ditches. Corn cockle and mustard are commonly associated with small grain crops, like oat. Eastern black nightshades may be found in soybeans, or occasionally hay.

Control: Weed seeds are a common problem in “bin run”, unblown, or unscreened oats. Blowing or screening oats is a process that separates the smaller weed seeds and other foreign material, like straw, sand, and other foreign matter from the oats themselves. Blowing or cleaning oats is commonly practiced by commercial oat and grain sellers and feed stores. When buying or raising your own oats, make sure they are blown or cleaned prior to feeding or seeding.

Toxin: Eastern black nightshade may contain a number of solanaceous alkaloids, such as solanadine. The mustard species also contain a number of identified chemicals, including glucosinolates, particularly isothiocyanates (mustard oils). Corn cockle contains a number of steroidal saponins, including agrostemmin.

When Toxic: The seeds, compared to the plants, have the highest concentration of toxic chemical. The seeds are



Eastern black nightshade berries

normally a problem when they occur as a contaminant in grain (i.e. oats or soybeans), and rarely in hay.

Toxicity: As little as 0.25% of body weight (or 25 pounds per 1,000 pound horse) of corn cockle seed has been shown to be toxic. Doses of 0.3 to 0.7% body weight (or three to seven pounds per 1,000 horse) of eastern black nightshade berries has also been shown to produce toxicosis and death. A specific toxic dose of mustard seed has not been identified.

Signs and Effects of Toxicosis: For each type of seed, signs and effects include reduced appetite, increased salivation, bloat, colic, diarrhea, and rarely death.

Treatment: Remove the seed source. Animals will normally need fluid therapy, often with electrolytes. Antidiarrhea treatment may be considered.

Other Information: Not only do weed seeds cause problems for horses when they are ingested, but some weed seeds can live the soil in a dormant state for 20 or more years, causing continued weed problems in pastures and hay fields. However, most seeds germinate in the first few years after they are shed from the plant. Regardless, weed control efforts should focus on reducing or eliminating weed seed production.



Weed seed contaminated oats

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In Partnership...



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