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INSECTS AND DISEASES OF FORAGE CROPS

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1. MEADOW SPITTLERBUG: *Philæus spumarius* (Linnaeus). Eggs overwinter and hatch in April, when young spittlebugs begin feeding on new growth. Heavy infestations cause plant stunting, rosetting, dwarfing and reduction of forage yields. Adults resemble leafhoppers but are more robust. They may range in color from light tan to brown or black.

2. GRASSHOPPERS: Several species of grasshoppers attack Nebraska forages. The most common is the red-legged grasshopper (*Melanoplus femur-rubrum* (DeGeer)). Grasshoppers normally breed in pastures, fencelines and roadside ditches, where eggs are deposited in the soil each fall. Young hoppers move into adjacent crops to chew on tender foliage. Spray small hoppers if they average eight or more per square yard. Delayed controls often are ineffective, regardless of the choice of chemical.

3. ALFALFA WEEVIL: *Hypera postica* (Gyllenhal). This is the most destructive alfalfa pest in the United States. The weevil, introduced into the United States from Europe, was discovered in Utah in 1904. Another infestation (evidently a separate introduction) was detected in Maryland in 1951. As these two infestations began to spread, they became known as the eastern and western strains of the alfalfa weevil. The latter had moved about halfway across Nebraska by 1969. In 1970, the first invasion by the eastern strain of the alfalfa weevil was detected near Rulo (Richardson County). In 1971 the eastern and western strains of the weevil came together. The adult alfalfa weevil is greyish brown to black, has a short "beak" and is 1/8 to 1/4 inch long. Adults overwinter and deposit masses of yellow eggs in alfalfa stems in April and May. After eggs hatch, larvae move to growing tips, destroying developing buds and young leaves. Larvae are green, about 1/4 inch long when mature, and have black heads. Each larva has a prominent white stripe down the back. When mature, larvae pupate in loosely woven silken cocoons either on the plant or on the soil surface.

4. GREEN JUNE BEETLE: *Cotinus nitida* (Linnaeus). This insect is not a pest in Nebraska but larvae of other June beetles may be found in Sandhills meadows and occasionally in alfalfa. They may cause noticeable stand reduction in alfalfa but it is seldom practical to control them. White grubs are white to greyish, usually C-shaped, have six legs and a reddish-brown head. At this time, no effective controls are known.

5. FALL ARMYWORM: *Spodoptera frugiperda* (Smith). A common insect in Nebraska but seldom serious as a forage pest. Moths deposit eggs on grasses in masses of a hundred or so. Eggs hatch in a week and larvae feed on grasses, occasionally moving into adjacent field crops. Pastures or other forage crops may be stripped of leaves. Larvae are brown, black and orange striped and have black heads with an inverted white "V" marking.

6. PSEUDOPPEZIZA LEAF SPOT OF ALFALFA: *Pseudopeziza medicaginis*. This disease, also known as common leaf spot, is common in Nebraska. It appears as small circular brown spots on the leaflets. A distinguishing characteristic is the small, dark brown-to-black raised disk (apothecium) in the center of the spot. Heavy infection may cause defoliation. The fungus survives the winter in leaf tissue until the following spring when infection of newly emerged leaves takes place. Some resistant varieties such as Teton, Ladak and Travorir are available. Loss from defoliation can be reduced by cutting early.

7. ANTHRACNOSE OF SORGHUM: *Colletotrichum graminicolum*. Anthracnose occurs on sorghum, barley, rye, wheat, oats and several species of grasses. Symptoms are: small oval to irregular zonate spots on leaves. The central area of the spot is tan and the border is red to brown or purple. Small lesions (gray with red border) may develop on the midrib as illustrated in the second photograph. Infection generally occurs in midsummer on mature plants when there is abundant rain. Midrib spot is seldom of any economic importance. Generally the disease is not serious enough to warrant control except for some varieties of sudan grass and broomcorn.

8. PSEUDOPPEA LEAF SPOT OF CLOVER: *Pseudopea trifolii* (Pepper Spot). *Pseudopea* (Pepper) spot is found on clover and alfalfa from midsummer until fall in Nebraska. The disease may be severe during cool, moist weather. Numerous, very small black spots appear on leaves, petioles and stems which later form brown necrotic areas from the leaf margin, resulting in curling and browning of the leaves. In alfalfa the small spots are brown in color. The fungus overwinters on crop residue. Specific control measures are unknown.

9. HELMINTHOSPORIUM LEAF BLIGHT OF SORGHUM: *Helminthosporium turcicum* (*Trichometasphaeria turcica*). Leaf blight occurs in Nebraska on corn and sorghum. Seedling blight may occur as the fungus can survive in the soil on decaying plant material or it may be seed-borne. Leaf symptoms may develop on seedlings but are more common on adult plants. Typical symptoms are elliptical, yellow-brown lesions of dead tissue, one inch or more wide and several inches long. Lesions are gray to brown with red, tan or purple margins. The disease is favored by humid, moist weather. Crop rotation and sanitation are means of reducing disease incidence. Resistant varieties are available.

10. ASCOCHYTA LEAF SPOT OF SORGHUM: *Ascochyta sorghina* (Rough Leaf Spot). *Ascochyta* leaf spot is widespread. Symptoms include small, light colored or reddish, circular to oblong spots on the leaves less than one inch long and one-half inch wide. Lesions may unite forming large dead patches up to 1 x 5 inches. Numerous black bodies (pycnidia) develop in the center of the lesions. Lesions may develop on the leaf sheath and the stalk. Pycnidia may develop on the glumes. Crop rotation, sanitation, seed treatment and use of resistant varieties are means of reducing disease incidence.