Alfalfa requires drought management

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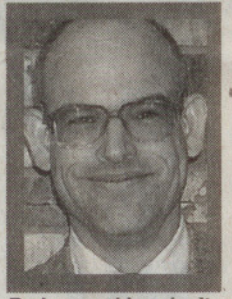

By Leonard Lauriault

While alfalfa is one of the few legumes that can go dormant during extended dry periods, alfalfa growers should consider several strategies to protect their alfalfa stands during drought to protect it for future years.

If enough plants survive the drought (5 plants per square foot or 40 stems per square foot), the field should become fully productive again after it recovers from the drought. Even when producers have less than optimum irrigation capabilities or no water for irrigation, alfalfa often can produce forage for harvest if locally significant precipitation occurs.

Some key strategies to consider during drought conditions in alfalfa include: Harvest management, irrigation management (if water is available), insect control, and fertilization.

The goal in drought harvest management is maintenance of leaf area for photosynthesis to provide continuous energy to sustain plant functions without depleting root reserves so that the alfalfa can survive.

If harvesting top growth above 6 inches is economically feasibly, the alfalfa should be allowed to reach at least 10 percent bloom. Continuous light grazing that maintains sufficient leaf area also is feasible; but the pasture should be monitored closely to maintain plenty of leaf area.

Alfalfa is more water-use-efficient during the spring when temperatures are more moderate. Consequently, if water is available but limited in supply for season-long irrigation, yields will be maximized by concentrating the water on the early cuttings and then terminating irrigation to allow the alfalfa to enter drought-induced dormancy.

If water becomes available later in the season, producers should consider harvesting the standing crop and irrigating as soon as possible because irrigation termination for more than one cutting will reduce total annual yield and recovery is delayed to the second or later regrowth after drought-induced dormancy is broken.

Another issue during drought is insect control. During dry periods, rangeland insects may migrate into alfalfa fields adding additional stress to the crop. Insect populations also will increase more rapidly; hence, more frequent scouting is necessary, especially when regrowth is initiated after harvest or by flowering.

Blister beetles, which are toxic to livestock, are attracted by young grasshoppers, in addition to flowers. Hence, because the alfalfa should be allowed to bloom before harvest, fields should be monitored for these insects just prior to harvest.

Drought stress induces survival strategy over biomass production resulting in lower forage production; however, nutrient availability remains critical during drought. Soil testing every three years is sufficient to determine particular nutrient needs of alfalfa.

Fertilizer should be applied prior to the initiation of growth in spring to minimize traffic on actively growing alfalfa so that stems are not damaged. Always apply fertilizer based on soil test recommendations for alfalfa at a lower level of production. Over-fertilization should always be avoided.

These key management practices should be considered for alfalfa to persist during drought years.

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