GUEST COLUMN

Fall Dormancy Classification of Alfalfa Explained

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Fall dormancy (FD) class is often the first characteristic alfalfa farmers consider when deciding on a variety.

FD trial October 22. Note height differences among varying FDs.


This FD trial at the S&W research farm in Nampa, ID, contains 11 standard check varieties plus >50 experimental varieties replicated four times across the trial, for FD characterization.

What is FD? It is a measure of fall growth. As autumn days become shorter, alfalfa plants begin to slow their vegetative growth, pushing more carbohydrate into storage in the taproot in preparation for winter. There is a wide spectrum in this response with some varieties having almost no slowing of fall growth (non-dormant). Others slow growth considerably as autumn days shorten (fall dormant), and some are in between (semi-dormant). Fall dormancy class is assigned to a variety by comparing it to a set of standard check varieties agreed upon by scientists in 1998. Standard check varieties provide stable fall regrowth data so FD ratings can be compared across varieties over time with relative confidence. Fall dormancy classes can be assigned from 1-11; ratings >9 are not common and more variable (less significant) in trials.

How are ratings made? Trial plots are established in spring, containing standard check varieties as well as varieties of interest. Plots are clipped on a normal summer schedule. The next to last cut must occur no later than August 1, with a final cut in early September. Measure plant height 25 days later, by early to mid-October, and compare varieties of interest to standard check variety height grown in the same trial(s). An FD rating is assigned based on fall height compared to check varieties. In general, FD classes are separated by a fall height difference of about two inches.

How do you use FD ratings in alfalfa variety selection? Focus on FD classes best suited to your area, but also consider high-yielding, well-adapted varieties with an FD rating adjacent to your target. If your target is FD4, also consider FD3 and FD5 varieties, provided they perform well in University trials and provide adequate winter survival.

Fall dormancy classes 3-5 (fall dormant) are highly suited to the northern half of the U.S. and areas that experience soil freezing. The association between FD and winter survival is well established. Fall dormancy class can be a proxy for winter hardiness, but winter survival is related to crown depth and is highly dependent on late-summer and fall cutting management.

In general, more dormant varieties (lower FD rating) will be slower to initiate re-growth after cutting and will have less fall yield. If taken, a fall harvest is often one of the lightest cuts of the year.

Resources: naaic.org/stdtests/updated/pdfs/FallDormancy.pdf; hayandforage.com/article-607-what-does-fall-dormancy-of-alfalfa-really-mean.html.