Forage Research Update *Compiled and edited by Paul Peterson, University of Minnesota*

Wisconsin - Stem Counts Aid Alfalfa Stand Decisions

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The ability to determine if stand density is limiting future yield potential is key to deciding whether or not to keep an alfalfa stand. Stands predicted to have reduced yield potential should be rotated to another crop since a large portion of the cost of forage production is fixed, and high yields generally result in the least production cost per ton of forage. Stem density can be an indicator.

Studies were conducted at University of Wisconsin Arlington Research Station and River Falls Farm where areas of differing alfalfa plant density were selected within 1-, 2-, and 3-year old fields of differing varieties each year, for three years. Over 20 commercial cultivars with fall dormancy ratings ranging from 2-4 were included, and soil fertility was optimum to high. Stem density and yield were determined on the same plot areas for each cutting, and plant density was determined at the end of the season.

Plant density and stems per plant had little relationship to yield. For example, stands with an average of 10 plants/ft^2 had yields ranging from 2-7 tons/ac. Stem density (per land area) was the best indicator of overall vigor and yield potential. Stem density below 40 stems/ft^2 had reduced yield potential.