

DEVELOPING A FORAGE GRASS MATURITY INDEX

Ray Smith, Roeland Kapsenberg, Jerome Magnuson, Steve Reid, Patton Slusher, Jerry Hall, Brent Jones, Robin Lamp, Yedilaklil Hunde, and Devesh Singh¹

There is a wide range of reproductive maturity among forage grass species and varieties sold in the U.S., but no uniform rating system for selecting varieties. The AFGC Forage Grass Maturity Working Group is comprised of seed industry and University representatives who are developing a forage grass maturity index. To provide initial maturity information, 8 grass species and 72 varieties were planted at company research farms in Oregon (Barenburg USA), Iowa (Grassland Oregon), and Kentucky (DLF). Species included annual, hybrid, and perennial ryegrass, Kentucky bluegrass, bromegrass sp., orchardgrass, tall fescue and timothy; varieties were selected to cover the range of known maturities within each species. Plot design followed an adapted protocol used for Grass Variety Review Board (GVRB)/Plant Variety Protection (PVP) applications, with a minimum of 30 space plants per variety over 3 replications, use of Julian calendar dates and growing degree days, maturity date observations when 3 reproductive tillers visible, and measurements the 2nd summer after seeding perennials. Results in 2017 and 2018 showed that Kentucky bluegrass started maturing on day 112 and varieties of timothy and perennial ryegrass were still maturing on day 161. There was considerable overlap across species, variety and location and a 20-day maturity range across varieties within 4 species. The working group proposes that company/University breeders apply to AFGC for their variety to be added to the AFGC-Maturity Index list after providing proof of variety acceptance by GVRB/PVP and providing the maturity dataset collected per the established protocol.

¹Ray Smith, Univ. of KY (raysmith1@uky.edu); Roeland Kapsenberg, Jerome Magnuson, Steve Reid, and Patton Slusher, DLF Pickseed; Jerry Hall and Brent Jones, Grassland Oregon; Robin Lamp and Yedilaklil Hunde, Barenbrug USA; and Devesh Singh, Wilbur-Ellis.