

Importance of a Consensus Research Agenda for the Genetic Improvement of Perennial (and Annual) Legumes: Science and Policy

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The many and varied uses and benefits of alfalfa and perennial clovers are well documented in the research community. Nevertheless, the past half century has seen marked decreases in public research FTEs and funding devoted to these crops. The major grain and oilseed crops have dominated much of the research focus including recent genomic efforts. It is this authors premise that at least part of this “demise of interest in perennial forage legumes” can be attributed to a lack of a strong commodity policy group and to a shift in focus of research to major food crops. Additionally, the absence of regularly collected production and value data for these commodities results in an inability to document the high value of legumes to legislative policy makers and those setting research priorities through the focus of grant programs.

We all know and understand that, even more so than with annual food crops, research projects that fit within a three year grant funded project do not result in sustained long term commodity improvement research and development of new cultivars with improved production and persistence. Nevertheless, decisions on filling positions and research direction at major Land Grant Universities are most often made by answering the question, “Can a new faculty member employed in this position support him/herself and generate large dollar grant overhead funds to help support departmental and college administration. It is unlikely this culture will change in the near future, thus we must change some of the research priorities to insure that the answer to the above question is “Yes”. Then positions will be recruited and filled with young scientists working on forage legumes that will be competitive and contribute to improvement of our commodities. In the balance of this paper I will outline what I believe are important science and policy objectives for the future of forage legumes.

POLICY OBJECTIVES

1. A culture change at the USDA-ERS to again begin collecting data on production and value of forage legumes (and grasses).
2. A strong re-emphasis on the sustainability aspect of forage legumes including a refocus on biological nitrogen fixation.
3. Development of a public policy office and effort (perhaps in conjunction with NAFA) and supported by various public and private efforts (including “check-off” funds?).
4. Renewed focus, coordination and prioritization of major research projects through the NAAIC & TC (maybe a new and better name).
5. Simplification of the regulatory process for introduction of transgenic cultivars into the marketplace.

RESEARCH OBJECTIVES

1. Development of six to eight “Regional Centers of Excellence for Forage Legumes” in coordination with USDA-ARS.
2. Completion of genome sequencing of major forage legumes, coupled with an intensive phenotyping activity.
3. A renewed emphasis on applied biotic stress resistance research and on biological nitrogen fixation.
4. A focus on how climate change and other abiotic stresses may alter/enhance the value of perennial forage legumes.