Diverse Farming Makes for a Unique Operation

by Vance Owens, South Dakota State University

Jerry Roitsch farms near Bristol, SD, in the northeastern part of the state. His farm is very diverse in terms of the number of crops grown and the type of services provided. Over the years Jerry has grown legumes ranging from alfalfa to foxtail dalea and grasses ranging from intermediate wheatgrass to blue grama. In his spare time he also grows corn, soybeans, and small grains. Over his career, he has produced seed from nearly all the crops grown on his farm and also runs a hay transportation business.

Big bluestem.

Jerry loves to learn, and could probably write a book about native grass seed production. His seed production efforts have included numerous native warm-season grasses such as switchgrass, little bluestem, big bluestem, indiangrass, sideoats grama, and blue grama; native legumes such as foxtail dalea and purple prairie clover; and introduced cool-season grasses such as intermediate wheatgrass. He has been growing foundation, certified, or common seed of many of these species since 1997.

Jerry enjoys the native prairie and has developed a unique talent and expertise for growing seed and forage from many of the tall grass and mid-grass species. He found quackgrass particularly difficult, and a noxious weed to deal with in northeastern SD when trying to produce seed from some of the cool-season grasses. For this reason, he shifted his attention to native, warm-season grasses and currently works almost exclusively with native species.

Forestburg switchgrass, 10' in 10 years.

Jerry is excited about the prospect and potential of producing energy from lignocellulosic crops, particularly from dedicated, perennial energy crops such as switchgrass. He appreciates the positive impact these species could have on the environment and energy security. He has been a key cooperator in several biomass research studies carried out by researchers from SDSU and from USDA-ARS; specifically, switchgrass variety trials on his farm where adaptability of various genotypes was evaluated over a number of years. He also took part in a study headed by Ken Vogel, USDA-ARS research geneticist from Lincoln, NE, where economic and energy implications concerning switchgrass biomass production were evaluated at the farm-scale level and at several other Great Plains locations.

Tomahawk Indiangrass seed field flowering Aug. 2006.

There are several reasons why Jerry is excited about biomass prospects. He thinks that management of switchgrass for biomass, specifically harvesting after a killing frost in the fall or in the spring after the plants have over-wintered, provides unique benefits that other farming operations may not. These benefits include: 1) reducing the need for N since much of the N would have been translocated to storage organs before harvest; 2) reducing weed encroachment; 3) improving and extending the timeframe when switchgrass could be used for wildlife habitat; and 4) increasing the chance for the stand to catch snow during the winter when it is harvested in the spring. He also recognizes, based on work done on his farm and elsewhere, that harvesting switchgrass during mid summer may cause serious stand decline in a short period of time.

Jerry appreciates research and other work conducted at the Land Grant universities, USDA-ARS, and the USDA Plant Materials Centers. Most of the seed he plants for grass seed production comes from the Plant Materials Center at Mandan, ND. He is especially cognizant of the value provided by plant breeders who collect native grass germplasm and work to breed varieties more adapted to specific locations. He believes that the ability to interact with individuals from diverse groups is the best way to share knowledge and improve his own operation.

He feels that research precedes education. Roitsch stated, "As a farmer I depend on the research from the land grant colleges and ARS. It is then through education that we farmers get the tools - the knowledge and the technology - that come from the research."