

## INTRODUCTORY COLUMN

Beginning in May, a monthly series by scientists at the USDA-ARS Northern Plains Agricultural Research Laboratory (NPARL) in Sidney will be published here to provide interested readers with information on the many research efforts underway at the facility. Each scientist will address particular aspects of his or her research, ranging from why the research is needed to their approach to the problems presented and any results to date. However, before presenting the individual work, it's helpful to know more about the unique role NPARL plays in agricultural research.

### **The Big Picture**

First, NPARL is a federal facility, one of more than 100 laboratories operated nationwide (and a handful overseas) by the U.S. Department of Agriculture's in-house research arm, the Agricultural Research Service (ARS). As a federal agency, ARS is charged with tackling agricultural problems that have broad regional or national impact. Many of those problems require long-term commitments of resources or complex combinations of disciplines and often may not lead to quick commercial payoffs.

Consequently, these types of research efforts, while extremely valuable, are typically not attractive to private industry or even land grant colleges because of the length of time and expense involved before any commercial product or even immediate application is developed.

### **Basic vs. Applied Research**

Because of the nature and complexity of the problems they are asked to address, ARS researchers generally focus on long-term or basic research to provide some of the "building blocks" necessary before concrete solutions can be developed for large or longstanding agricultural problems. As a result, research

programs developed through ARS typically have an anticipated life-span of 8 to 10 years, with some continuing to collect data for decades. The end results of these efforts, while always important, also may not be immediately applicable for a variety of reasons, including social, economic, scientific or technological constraints.

### **The ARS Structure**

The complexity and national breadth of much of the research done by ARS often requires considerable overlap of disciplines. To avoid duplication and ensure the "biggest bang for the taxpayer's buck," ARS is divided into 22 national programs, or research focus areas. Those projects identified for research are then divided among the 120-plus ARS research facilities established across the nation, meaning the agency's individual labs work not only on those issues of geographic importance to their individual locations, but also on issues of national importance.

The labs themselves are organized into eight multi-state regions or areas. NPARL is one of 14 ARS labs located in the eight-state Northern Plains Area, incorporating Montana, North and South Dakota,



Wyoming, Colorado, Kansas, Nebraska and Utah. The Sidney lab is one of only two ARS labs found in the state of Montana, the second is the Fort Keogh Livestock and Rangeland Research Laboratory at Miles City. Our closest North Dakota counterpart is the Northern Great Plains Research Laboratory in Mandan.

### **NPARL Partnerships**

NPARL partners closely with a number of its fellow ARS labs including the Mandan and Miles City locations, but those partnerships are not limited to ARS facilities. NPARL maintains a longstanding and far-reaching relationship with Montana State University's Eastern Agricultural Research Center, headed by Dr. Jerry Bergman, which donated the land on which the Sidney facility sits and which maintains several offices in the laboratory. The two Sidney-based facilities share labs, equipment and expertise, in addition to office space. NPARL also maintains strong ties with North Dakota State's Williston Research Extension Center, also headed by Dr. Bergman. Other NPARL research partners include numerous federal agencies such as the Bureau of Land Management and U.S. Forest Service; state institutions such as the land grant colleges and Extension Services; and individual producers, across a multi-state region who provide the land for many of the experimental plots employed by NPARL scientists.

### **NPARL Research and Growth**

At NPARL, those research efforts are focused on three main areas: biological control of selected noxious weeds, insect pests and fungal pathogens; the ecology and management of grasshoppers; and development of sustainable irrigated and dryland agricultural production systems. Of course, it is that research that is the subject of this monthly series.



NPARL has changed dramatically since its inception in 1963. In the last decade, its scientific staff has doubled, with similar increases occurring in support positions and expanded programs, including the addition of a new irrigation research component. That growth ultimately led to the lab's restructuring into two separate research units in February 2000. Those units include the Agricultural Systems Research Unit, which addresses agricultural issues facing dryland and irrigated production agriculture, and the Pest Management Research

Unit, which targets weed and insect pests.

As personnel and programs expanded, so, too, did the need for new facilities. This summer NPARL personnel will be moving into a new multi-million dollar lab/office complex to accommodate that growth. The complex is the first in a two-phase construction plan for the Sidney lab. Phase II includes new greenhouses and a biocontainment facility, already approved, but awaiting final funding.

In the meantime, NPARL will be celebrating the dedication of its new lab/office complex this fall on Saturday, August 10. Everyone is invited to attend. Additional details about the event will be made available in this column closer to that date.

### **Coming Next Week!**

We open our monthly series with a look at the world of grasshoppers. NPARL Research Entomologist Dr. David Branson will discuss his research into preventing damaging outbreaks through grazing management.