

National Laboratory seeks ways to boost ag production

Researchers look at how to generate biggest profits in portions of fields

By **HEATHER SMITH THOMAS**
For the Capital Press

Idaho National Laboratory researchers in Eastern Idaho are looking at ways to increase profitability, even if it means planting different crops on the same field. Among the options are planting bio-energy crops to take advantage of soil types unsuited for higher-earning cash crops.

For example, a single field may have several different soil types, and they are not all good for production of the same crop.

"This impacts crop yields. If we look at the soil we can determine which areas produce better yields, and other areas where the crop is really struggling," said Mike Griffel an agricultural research analyst at

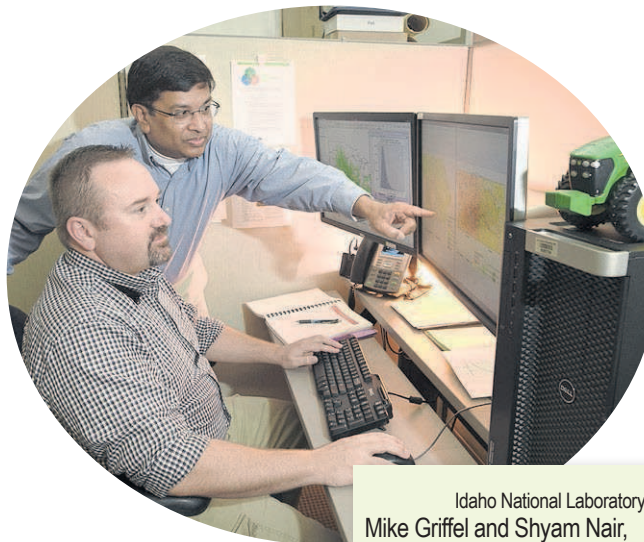
the laboratory near Idaho Falls.

"Part of our integrated landscape design is to look at how we can split up a field to maximize profitability, so farmers can keep producing their crops like corn or soybeans on high-yielding areas that can support more intensive management," he said. "We can model how things change if they were to plant a perennial crop on the poorer-production areas."

A perennial crop is genetically better equipped to utilize what's there, without need for additional inputs.

This would create less soil loss over time. Perennial plants hold the soil better, and could be utilized for bioenergy.

"There are many types of biomass crops that can be used for energy production," he said.



Idaho National Laboratory
Mike Griffel and Shyam Nair,
researchers at the Idaho National Laboratory, are studying ways to maximize the economics of individual fields.

The grasses they are studying include switchgrass and miscanthus. These are hardy prairie grasses capable of producing significant amounts of biomass with minimal crop inputs.

"They can be harvested at the end of the year and used for bioenergy production, and

grow back year after year. They need very little fertilizer and are much better suited to weaker soil areas," Griffel said.

Many farmers are used to looking at profitability on a per-acre basis, across the entire field.

"When you look at various areas of the field, however, and take the areas out of production where the grower is losing money, you can greatly alter profitability," he said. "Farmers can make more money because they are not pouring so many inputs onto areas that are not productive and won't return that money."

The inputs applied to the field also cause soil and water quality issues. It's better not to add those to soils that are not suited for the crops the farmer is trying to grow. The integrated landscape approach can help build a future bio-economy and hopefully give farmers another source of revenue and another option for something that could be grown on weaker sub-field areas. The laboratory works with many partners in this re-

search, and universities around the country where people grow test plots.

"There is a lot of research in place already; we can incorporate their findings regarding yield and agronomics," he said. "It's a team effort."

The farmer might cut and bale grasses or crop residues, or custom operators might come in to harvest it.

"We've also developed models looking at how equipment moves through the field," he said. "When you take out a portion of the field ... we want to know how it will impact the farmer's machinery movement. Maybe we are increasing the number of turn-arounds or creating an obstruction in the middle of what used to be a nice, square field. The model has to incorporate all this, because we must be able to evaluate whether this can be done at an economically sustainable level."

YOUR AG SOURCE FOR PARTS & EQUIPMENT AT A FRACTION OF THE COST OF NEW

CELEBRATING 28 YEARS IN THE AGRICULTURAL MACHINERY BUSINESS



Our yard has ~~(4)~~ 5 miles of road. Free tours given daily!

*** AG EQUIPMENT * SALVAGED TRACTORS
* CONSTRUCTION EQUIPMENT * PARTS
(Save up to 50% buying used parts)**

WE SHIP ANYWHERE!

Call Toll Free
(888) 372-4020

**NYSSA, OR
www.nyssatractor.com
sales@nyssatractor.com**

**Nyssa Tractor
& Implement Co.**

Tech18-3/108

RECOMMENDED FOR

*Comfort, efficiency, and storage environment
all affect productivity and your returns*



contr #SPRAYFS834NG

For use in AG FACILITIES

- Crop storage
- Poultry houses
- Livestock
- Barns • Stables

RESIDENTIAL & COMMERCIAL

- Floors • Attics
- Crawl spaces
- Cold Storage
- Ducts • Freezers
- Piping • Ceilings

**LOWER CONSTRUCTION COSTS/VALUE ENGINEERING
SUSTAINABLE & HEALTHY • ENERGY EFFICIENT • LONG TERM VALUE**



Don't Underrate the Value of Your Insulation

SPRAY FOAM SPECIFIC

(360) 827-1309 • sales@sprayfoamspecific.com

Tech18-3/103