

### Ag Marketing Specialist In Yankton



An Iowa State University farm and ag business management specialist will speak at seminars in seven South Dakota cities, including Yankton, Dec. 2-9.

Steve Johnson will be the featured speaker at the GrowingOn 2015 meetings sponsored by Farm Credit Services of America and the South Dakota Corn Growers Association.

In his presentation, "Leveraging Risk Management Tools to Manage Revenue," Johnson will give a crop price outlook and discuss marketing strategies and tools, farm bill programs and regulations, crop insurance strategies and 2015 crop cost estimates.

FDSA specialists will discuss crop insurance options and how to minimize risk. Admission is free and includes

A form will be held at Yankton's Best Western Kelly Inn/Minerva's on Friday, Dec. 5, at 9:30 a.m.

There will also be a forum at th Highland Conference Center in Mitchell at 6 p.m. Dec. 4, and at the Sioux Falls Convention Center at 5:30 p.m. Dec. 9

Register at cropinsurancespecialists.com or call 800-884-FARM or 605-334-0100.

### SDSU Sheep Shearing School Set

BROOKINGS — The SDSU Sheep Shearing training program will be held Dec. 10-12 at the SDSU Sheep Unit located in Brookings.

For more than 20 years, South Dakota Sheep Growers Association and SDSU Extension have sponsored a threeday program designed for experienced and non-experienced persons eager to gain skills to improve the harvest of wool in flocks across the region.

Professional shearing instructors include Curt Olson, Wade Kopren, Brian Lautt, Alex Moser, Mark Hogenboorn and Kevin Hicks.

These shearers are among the elite shearers in the U.S. and have served in our training program for many years! In addition to teaching the skills of shearing they excel in many aspects of shearing, including proper blade sharpening techniques, wool packaging, animal management and facilities layout on shearing day," said Jeff Held, Professor SDSU Extension Sheep Specialist.

The event is co-sponsored by SDSGA-Wool Committee and SDSU Extension. This shearer training class is limited to 12 students resulting in no more than two students per

Participants will be supplied with top quality shearing equipment such as flex drops, hand pieces, combs, etc. courtesy of the program sponsors-South Dakota Sheep Growers Assn. Yet many bring their own shearing equipment for the purpose to have the instructors' help you evaluate and address maintenance needs and proper equipment function.

To register for this event, visit iGrow.org/events to download the form. The cost of the program is \$150 per person with a \$25 deposit submitted by the registration Science. Completed registration forms and deposit can be sent to SD Sheep Shearing Program, Box 2170, Brookings,

For additional information, contact Held at 605-690-7033 or email Jeffrey.Held@sdstate.edu.

### Ag CEO Training Program To Begin

BROOKINGS — Ag CEO: Managing the Operation will begin Dec. 9 in Brookings.

Ag CEO: Managing the Operation is a program consisting of once a month meetings which last three hours for four months. Producers will gain skills necessary to complete a marketing plan, understand hedging, financial statements and the role they play in the operation and en-

With rapid changes occurring in agriculture, there is a need for producers to improve record keeping and be financially knowledgeable in operating their farms and ranches," said Shannon Sand, SDSU Extension Livestock Business Management Field Specialist.

Through this training, Sand explained that producers will be given the information they need to understand how to use a systems approach including: creating a marketing plan, insurance and hedging, financial statementscash flow, balance sheet and income statement. They will also understand enterprise budgets — including capital and partial budgeting. They will be encouraged to create a benchmark to keep track of physical and financial inventories and use financial ratios to help make buying decisions, such as land values-leasing versus owning.

"These are key business principles for establishing a profitable and sustainable operation," said Sand.

The Brookings program will be held Dec. 9, Jan. 13, Feb. 10 and March 3.

For more information and to register for the program, visit www.iGrow.org or contact Sand at 605-394-1722 or Shannon.sand@sdstate.edu or Heather Gessner, SDSU Extension Livestock Business Management Field Specialist, 605-782-3290 or heather.gessner@sdstate.edu.

# Crops And CO2



## Study Says Crops Play A Role In Atmospheric Carbon Dioxide Levels

**BY RITA BRHEL** 

P&D Correspondent

Every year, carbon dioxide in the atmosphere ebbs and flows depending on the season.

Now scientists from several universities have determined a source to the seeming rhythmic swoop and sway of the levels of this gas primarily responsible for global warming: the growing season, particularly the agricultural crops of corn and soy-

"Global climate models don't represent the important details of agro-ecosystems and their management very well," said agronomist Chris Kucharik about human activity's contribution to climate change. He is a researcher at the University of Wisconsin in Madison, Wisconsin, who was part of the multi-university study that also consisted of co-authors from Boston University, the University of New Hampshire, the University of Michigan, the University of Minnesota and McGill University.

While it has long been recognized that there is an annual cycle of atmospheric carbon dioxide levels, until now it was largely assumed that the up and down patterns were related to the growing season but that vegetation cover in general, such as forests, was responsible.

"Something is changing about this cycle," said Mark Friedl, climate researcher at Boston University, a senior author of the study. "Ecosystems are becoming more productive, pulling in more atmospheric carbon during the summer and releasing more during the dormant period.'

But something wasn't adding up, until researchers began looking at cultivated vegetation. And the puzzle pieces began to

We've put humans and cropland into the story," said Josh Gray, agricultural-environmental researcher at Boston University and lead author on the study.

It's not that crops are adding more carbon dioxide to the atmosphere than would be there otherwise. Instead, it's that the crops act like a sponge - sucking in the carbon dioxide during the growing season when the plants are using the carbon dioxide to combine with solar energy as part of their biology, and then releasing the gas once the plant is dead or harvested.

This is another piece of evidence suggesting that when we do things at a large scale, we have the ability to greatly influence the composition of the atmosphere,' Kucharik said about human activity's contribution to climate change.

According to the study, the production of corn, wheat, rice and soybeans in the Northern Hemisphere - together, these crops represent 64 percent of all calories consumed worldwide - has increased by 240 percent since the 1960s. The majority of that production increase has occurred in the Midwest of the United States and in Northern China, and within the last 50 years especially when intensive agricultural management came into play.

Due to advancements in plant breeding, fertilizer applications, irrigation and other agronomic technologies, the same land area over time has been able to produce exponentially greater yields

crop per drop," Kucharik said, but there

appears to be a price to pay.

Cropland makes up just 6 percent of the green area of the Northern Hemisphere, according to the study, but yet is the primary contributor to a 50 percent increase in general atmospheric carbon dioxide. Together, this mere fraction of cropland captures approximately 1 billion metric tons of carbon each spring and releases it each fall. Overall, this represents a full one-quarter of the total seasonal carbon dioxide exchange.

That's a very large, significant contribution," Kucharik said. "Two-thirds of that contribution is attributed to corn. Corn once again is king, this time demonstrating its strong influence on the seasonal cycle of atmospheric carbon dioxide.'

To be fair, seasonal variation in atmospheric carbon dioxide of the Northern Hemisphere doesn't have a major impact on global levels of this gas in the atmosphere, because the carbon dioxide exchange rises and falls with the crops each year. But the researchers feel that understanding this process does help improve models global climate change and the effects on various ecosystems.

"It's a remarkable story of what we've done in agriculture in general, and in particular in corn, which is one crop that's just exploded," Friedl said. "Over the last 50" years, the area of cropland in the Northern Hemisphere has been relatively stable, but production has intensified enormously. The fact that this land area can affect the composition of the atmosphere is an amazing fingerprint of human activity on the

## Flexible Cash Lease Arrangements: The Basics

BROOKINGS — Flexible leases may offer limited financial protection to farmers should growing conditions or market prices deteriorate, or production costs escalate.

'Unlike a fixed cash lease contract, where the per acre rent amount is agreed upon well before field work begins, the rent amount with a flexible lease adjusts depending on final yield, commodity prices, cost of production or some combination of all three," explained Kim Dillivan, SDSU Extension Crops Business Management Field Specialist.

For those unfamiliar with a flexible cash lease, Dillivan explained that it is a contractual arrangement between a landowner and operator in which the final rent payment is determined after the crop has been harvested,

"Flex lease arrangements also offer opportunities for landowners to benefit should commodity prices rise or better than expected yields occur," he said. "In recent years, gains in commodity prices and increasing yields have increased the popularity of flex leases among landowners, and flex leases that allow the sharing of market and production risk are popular with some producers.

ADVANTAGES OF FLEX LEASE CONTRACTS

Dillivan said the general advantage of a flex lease is the avoidance of committing to a fixed rent amount at a time when many production and market variables remain unknown. "Depending on circumstances, flex leases offer advantages over fixed cash lease contracts and crop-share leases," he said.

Some of these advantages include:

• For the landowner, an opportunity to benefit financially from higher yields and favorable commodity prices.

• For the operator, some level of risk protection should costs rise or revenue disappoint. Disadvantages of Flex Lease Contracts Along with the benefits, Dillivan said flexible lease arrangements also present some risks to both landowners and operators.

• For the landowner, a flex lease can increase their exposure to risk (compared to a fixed cash lease agreement).

For the operator, higher

revenue from increased yields and/or prices is shared with

• For both parties, flex leasing greatly increases the contract's complexity.

#### **DIFFERENT METHODS FOR FLEXING RENT**

There are many different ways for flexing rent, including yield, price, cost or some combination of each. "All of these are accompanied by some degree of risk and landowners

and producers are encouraged to carefully consider each type before making a final decision," Dillivan said.

He added that because a flex lease specifies a rent payment amount that is determined after the contract is signed, these arrangements require that both parties fully agree to, and understand completely, the exact mechanisms for calculating payment.

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