neighbors

 ${\tt TYNDALL-The\ Dakota\ Southern\ Cattlemen's\ Association\ will}$ hold its annual banquet today (Saturday) at the Tyndall Community

Dakota Southern Cattlemen's Banquet Today

Jack Sieben, caterer, will provide a prime rib meal. Guest speakers will be Dr. Dustin Oedekoven, South Dakota State Veterinarian, along with Scott Varilek and Loren Kaemingk, Commodity Brokers with Kooima & Kaemingk Brokerage Company.

You can purchase your tickets at the Bon Homme County Extension Office or by calling Keith Dvoracek at 661-4981. There will be no ticket

Workshop Focuses On Alternative Livestock

BROOKINGS — South Dakota Small Acreages will be hosting a seminar for all acreage owners on Saturday, April 14, at the Sioux Falls Regional Extension Center, located at 2001 East 8th Street (formerly, the S.D. School for the Deaf).

The program will begin at 9 a.m. and conclude around noon. Topics will include:

SDSU Extension / South Dakota Small Acreages resources avail-

- Horse pasture recommendations by Dr. Roger Gates, SDSU Exten-
- sion Range Specialist • Grant opportunities for acreage owners by Mindy Hubert, Small
- Acreage Field Specialist

 - Alternative livestock for acreagesMeat goats: Doug Pavel, Butte Vista Farm
- Miniature cattle
- Exciting new website: "iGrow Horses" by Dr. Rebecca Bott, SDSU Extension Equine Specialist

The cost for the program is \$5/person or \$15/family. Checks can be made to SDSU. Pre-register with Mindy Hubert mindy.hubert@sdstate.edu or call 605-394-1722. A flyer has been posted at http://www.sdstate.edu/wrac/sdsa/events.cfm. You can also check out Facebook under "South Dakota Small Acreages."

Re-Enroll CRP Acres Before April 6

BROOKINGS — Landowners eager to re-enroll marginal acres in the 2012 Conservation Reserve Program (CRP) general sign-up through April 6 need to focus on their land's environmental benefit index (EBI) says Matt Morlock, farm bill biologist with Pheasants Forever.

"Whether your land gets accepted or not is based on the land's EBI score. The higher the score, the better your chances are of getting in," said Morlock, who aids landowners in signing up for conservation programs. In South Dakota, he says there is only one way to improve an EBI score

"What you choose to plant for cover is the only way to improve a score in South Dakota," Morlock said.

With about 6.5 million acres schedule to expire Sept. 30, Morlock expects a lot of competition during this general enrollment as many landowners to take advantage of this sign up to re-enroll.

"Each year a point threshold is implemented but not released. Although all existing CRP acres should qualify, if you only have a 10 point cover, don't expect it to have a good chance of being re-accepted into the

Just like the signup in 2011 there is a focus to enroll diverse seed plant-

ings due to the decline in bee population's nationwide.

"There is a push for diverse, bee pollinator plantings on CRP land to help encourage bee populations," said Morlock, who developed a brochure which explains how landowners can increase their land's EBI

He encourages landowners to focus on CP 25 — a conservation practice which includes planting eight species of native grasses and seven species of native forbs/wildflowers.

The key is planting the most diverse seed mix," Morlock said. When native forbs are added to the seed mixture, many landowners become concerned about weed control, says Jason Tronbak, conservation

specialist with Millborn Seeds, Brookings. "The question I've been getting lately is, 'how can I control weeds if I add wildflowers to the mix," said Tronbak, who helps landowners by developing customized seed mixes to meet CP 25 requirements. "Fortunately, we are able to develop herbicide tolerant mixes that meet CP 25 specifica-

Tronbak is referring to Plateau, a pre-emergent herbicides used to establish native species and Milestone, a post-emergent herbicide designed to primarily to control thistles and other broadleaf weeds. When landowners work with Tronbak and Millborn Seeds, the grass seed company offers a Stand Establishment Guarantee.

To learn how you can increase your land's EBI score and receive Millborn Seeds' Stand Establishment Guarantee, contact Jason Tronbak at jasont@millbornseeds.com or 888-498-7333

Artificial Insemination School April 25-27

BROOKINGS — Artificial Insemination (AI) is a valuable tool available to cow/calf producers. To teach commercial cow/calf producers how to utilize this tool, SDSU Extension is sponsoring an AI School April 25-27 at 1 p.m. at the Sioux Falls Regional Livestock facility near Worthing, with additional classroom time at the Sioux Falls Regional Extension Center.

"A stumbling block that's prevented the wider use of AI technology among commercial cow/calf producers has been producers simply not knowing how to AI cows and a general unfamiliarity with how AI and synchronization works," said Warren Rusche, SDSU Extension Cow/Calf

The AI School will include both classroom instruction as well as hands-on training that will cover the basics of AI and practice reproductive tracts.

"One of the unique things about this school is that we'll spend a lot of time talking about cowherd management, ways to optimize reproductive efficiency and steps producers can take to improve reproductive performance whether they are using AI or natural service," Rusche said.

To ensure producers receive plenty of hands on time, the class is limited to 20 participants. Registration is \$325 and covers costs of materials and cows to practice on.

To register, contact Carol Kleinjan at the SDSU Animal Science Department, Carol Kleinjan@sdstate.edu or 605-688-5165). Don't wait to register as the class is expected to reach its limit soon. There will be a waiting list for future classes.

Restore Pastures This Spring, Expert Says

BROOKINGS — Livestock producers looking to increase their forage production and lengthen their grazing season should rejuvenate their pastures this spring by interseeding a customized perennial pasture grass seed mixture, says Eric Mousel, forage and alfalfa specialist for Millborn Seeds, Inc, Brookings and Sioux City.

"Interseeding is an inexpensive way to increase species diversity within a pasture," said Mousel, who helps producers maximize their forage production. "Increasing the diversity of warm and cool season grass species ensures livestock have fresh, high quality forage to graze the entire growing season because different species mature at different

Because every landowner's needs and growing conditions vary, Mousel likes to work with livestock owners one-on-one to develop a mixture that works best for them and meets their livestock nutrition and forage needs.

If a landowner plans to start fresh or convert cropland to pasture this spring, Mousel says they need to begin with weed control.

"To aid with weed control, I suggest planting a nurse crop that will grow in with the grass seed," he said. "Nurse crops are a temporary, aggressive, fast growing crop that shade out weeds and can be cut for

He adds that by cutting the nurse crop for hay, livestock owners not only get a hay crop, but also prevent any weeds from going to seed.

To develop a customized seed mixture to succeed in your growing conditions and meet your pasture and forage needs contact Mousel at ericm@millbornseeds.com or 888-498-7333.



Target: A Healthy Harvest

The Opportunities And Challenges Of Breeding Nutrition Into Crops

P&D Correspondent

For many people in the United States, French fries and breakfast cereal count as vegetables. And it shows — with television programs like "The Biggest Loser," healthy living programs in schools, and weight-loss challenges in the workplace, it's evident that malnutrition is at epidemic proportions in this country.

But it's not just obesity that's capturing attention; the fact is, most Americans are struggling just as much with undernourishment and nutritional deficiencies.

Agricultural producers and growers like to pride themselves on feeding the world, but what are they feeding? According to Philipp Simon, a geneticist with the U.S. Department of Agriculture and a horticulture professor at the University of Wisconsin in Madison, 13 percent of the world's population is undernourished, 30 percent are iron-deficient, and 2 percent have a vitamin A deficiency. And it's not just third-world countries — most Americans are chronically deficient in vitamins A and C as well as calcium, magnesium, and potassium. Consumers also struggle to get enough fiber, folate, and vitamin E in their

These are all nutrients that can only come from the diet, and many come solely in the form of plants, such as vitamin C in orange juice. Encouraging consumers to eat more fruits and vegetables is one way to approach the problem; another way is to boost the nutritional content in the foods that people are eating. This has led to fortifying foods in some cases, as in bread and cereals, and to improving horticultural practices in other cases, such as adding selenium to the soil to increase selenium levels in garlic. Another strategy has been in breeding nutrition into plants.

CAROTENE AND CARROTS

Researchers have been successful in breeding nutrition into plants in many cases, such as increased protein into maize, iron into beans, zinc into rice and wheat, and vitamin A into maize, sweet potato, and some cucumber varieties. The bulk of Simon's work has been with carrots, which contains the most vitamin A of any fruit or vegetable.

"All vitamin A ultimately comes from plants," he said. "Today, half a carrot provides the daily intake for an adult of vitamin A. One square meter of carrots in one year provides enough vitamin A for 10 adults for a year."

Even though, carrots have historically been one of the few crops to have increased its nutritional content — the average carrot contained 60 parts per million (ppm) of vitamin A in the 1950s, to 90 ppm in the 1970s, to 130 ppm in the 1990s — carrots continue to have potential, up to 300 ppm. "So, there's a lot of opportunity for breeding nutrition into crops,"

An advantage to breeding vitamin A, also known as carotene, into carrots is that it's easy for the consumer to choose the more nutritional carrot — the deeper the orange color, the more vitamin A it has.

There are challenges, however, with getting the research out into the field. As with all crops, there is a pull between quality and



PHOTO: RITA BRHEI

quantity. Some varieties have more nutritional value than others. Some yield better. Some are more flavorful. Some are more convenient. Some have a longer shelf life.

"Higher carotene content generally imparts no economic benefit to growers," Simon said. Future work will focus more on marrying qualities that growers are looking for, such as yield and shelf life, and what consumers want, such as flavor and convenience, with nutritional

BREEDING ANTHOCYANIN INTO TOMATOES

There are three types of nutrients: macronutrients, which include carbohydrates, protein, and oil; vitamins and minerals; and phytochemicals, such as lycopene. Unlike macronutrients, vitamins, and minerals, phytochemicals are not essential to the human diet, although they do have several health-boosting qualities such as being anti-allergy, anti-inflammatory, anti-microbial, and anti-carcinogenic. Phytochemicals are broken down into two categories — phenolics and flavonoids. Jim Myers, a horticulturist at Oregon State University in Corvallis, works in breeding one type of flavonoid, anthocyanin, into tomatoes.

"Tomatoes are second in per capita consumption after potatoes," he said, and tomatoes possess many flavonoids as well as being a good source of vitamin C.

Like carotene, anthocyanin is easy for the consumer to choose the more nutritional tomato — its color indicator is purple. Tomatoes with anthocyanin breeding are typically blue in their green stage, turning dark purplish black when ripe.

Tomatoes in general are relatively low in flavonoids in the fruit," Myers said. "Black and purple heirloom tomatoes are a completely different genetic system. It doesn't have anything to do with anthocyanin."

Normal tomatoes contain 35-36 milligrams of flavonoids, none of which are anthocyanin. Tomatoes bred with anthocyanin by Myers contain 223-626 mg of flavonoids.

As with high-carotene carrots, there is concern in getting anthocyanin tomatoes to the consumer. Consumers like red tomatoes, so the purplish black tomato will need to come with a strong educational component. It's interesting to note that the numbe nigment is only on the skin and the inside of the fruit is still red, unlike dark heirloom varieties that do have brown color on the inside.

There is a bright side for growers, however anthocyanin tomatoes are more resistant to decay off the vine than normal tomatoes.

BREEDING METHIONINE INTO CORN

The importance of breeding nutrition into plants isn't limited to human foods, but also to field crops that go on to feed livestock. Walter Goldstein, founder of the Mandaamin Institute in Elkhorn, Wis., is directing research related to breeding methionine — one of two primary limiting animo acids, the building blocks of protein — into corn to be fed to chickens.

Traditional breeding of corn has led to greatly increased yields but also a progressive increase in starch content and a decline in protein content in the grain. This is why corn must be combined with soybean meal, to provide the adequate balance between protein and starch. However, as corn yield continues to climb higher, the protein level will continue

Normal corn is, on the high end, 9.5-percent protein; the average is closer to 7.5 percent. High-methionine corn is, on the low end, 10-percent protein.
"With feeding broilers, we had to restrict

the feed to avoid feeding frenzies," Goldstein

There is also a link to human diets. Highmethionine corn has more carotenoids, a flavonoid, and it is contained in the egg yolk, which is one of the best ways of getting it into the human body. The darker the yolk, the more carotenoids it has.

However, as with the carrots and tomatoes, there is the challenge of getting high-methion-ine corn into the fields. There is no way to avoid a yield penalty, said Goldstein, but he is working to increase the yield of the high-methionine corn to be more attractive to producers. In his trials, high-methionine corn grown organically yielded 91-94 percent as much as the elite hybrids; the conventionally grown high-methionine corn yielded 88 percent as much as the elite hybrids. However, the highmethionine corn also had 43 percent more protein than the elite hybrids and 13 percent

"In terms at looking at the future and feedsaid. "However high the yield, someone has to

Survey: S.D. Farm Income Decreased In 2011

MITCHELL — The average farm saw a 12.3 percent decrease in net farm profit from 2010 to 2011 according to financial information provided by farmers enrolled in South Dakota's Farm/Ranch Business Management Program.

The program is offered to farmers and ranchers in South Dakota through Mitchell Technical Institute at Mitchell. The purpose of the program is to assist farm and ranch operators in upgrading their management skills.

Average net farm profit of enrolled farmers was \$260,891 in 2010 and decreased to \$228,908 in 2011.

"Net farm profit represents dollars earned from the farm before business expansion, loan

Yankton United

Church of Christ

Yankton UCC Adult Choir

Readers' Theatre/Orchestra Jennifer Powell, Director

(Congregational)

principal payments and family living expenses are paid," says Roger DeRouchey, Farm Management Instructor at Mitchell Technical Institute.

The average enrolled family farm spent \$66,103 for living but also earned \$17,471 from nonfarm sources. "Non-farm income helps for covering family expenses in today's farming," says DeRouchey.

A number of factors contributed to the decrease. The farming 2010 year was very good in both the livestock and crop enterprises, but the wet spring increased the prevented plant acres in 2011. The dry fall in 2011, reduced yields in the corn and soybean crops compared to the 2010 crop year.

by Pepper Choplin

6th Annual Palm Sunday Cantata

We Were There

Sunday, April 1 • 4 p.m.

Public Warmly Welcomed

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itable farms did considerably better, with net farm profit of \$459,716 whereas the 20 percent least profitable farms net farm profit was \$45,311. The spread in income is often greatly affected by difference in management practices, size of the farming operation, and climatic conditions. Average progress was made

The 20 percent most prof-

towards increasing net worth or owner's equity. A change in equity of \$234,570 was realized by

the average farm, a 16 percent increase in 2011. In 2010 the change in equity was an increase of \$206,076 or 15 percent. Gains can occur as a result of investing farm income into capital assets or repaying debt. Further evidence of the range of profitability can be seen in the equity change between the high and low profit



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