



**Low Temp Hit At Soybean Maturity**

BROOKINGS — Low temperatures this week can have a negative impact on 2014 soybean yields said David Karki, Ph.D., SDSU Extension Agronomy Field Specialist.

“Ultimately, the impact these low temperatures will have on the soybean crop in the areas impacted can be broadly divided into two categories: above freezing and below freezing — which are any temperatures 32 degrees and lower,” Karki said.

He added that the effect on the crop can also vary according to the growth and development stage.

“Soybean vegetative growth and early reproductive development occur before July and August, therefore, low temperature is not always an issue, however, crop at later maturity stages always bear a chance of being exposed to low temperature or frost damage,” he said. “Temperatures above freezing will simply delay the crop maturity and harvesting due to the seed moisture content. Pods that are at R6 stage have seed moisture content of about 70 percent and are ideal moisture content for harvest is below 15 percent. If the pods are on earlier than R6 stage, low temperatures will hamper the development of the seed and will have significant impact on yield.”

Maturity of the crop will vary due to the fact that June rains delayed planting in much of the state, and this growing season has been a cool one, Karki said.

“The influence of below freezing temperatures on soybean harvest and yield can depend on growth stage, amount and duration of the frost, and cultivars planted,” he said. “Light frost for short duration may only affect the top leaves where plant will keep developing seeds. Severe freeze will damage leaves, pods and stems.”

According to past research, Karki said that reports show significant yield loss due to freezing temperature on all soybean cultivars at or before R6 stage, however the effect varied among cultivars beyond R6 stage. “One can expect up to 5 to 15 percent yield loss if the growth stage is between R6 and full maturity. Protein content is not generally affected by freeze but oil content can be slightly reduced if the freeze occurs before R6,” he said.

To learn more, visit iGrow.org.

**Southern Rust Is Confirmed In SD**

BROOKINGS — Southern rust was recently found in Brookings County at very low incidence and severity, said Emmanuel Byamukama, SDSU Extension Plant Pathologist. According to USDA’s Crop Progress and Condition report of Sept. 2, 2014, 41 percent of the corn had dented.

“Therefore, the southern rust developing on corn may not significantly reduce yield except for corn planted late,” Byamukama said.

He explained that Southern rust is caused by Puccinia polysola and does not overwinter in South Dakota. Spores are blown from southern states northwards. “This rust thrives under humid and warm weather conditions. The optimum temperature for this disease to develop is 82 degrees Fahrenheit and at least six hours of leaf wetness. With cooler temperatures in the forecast, southern rust progress in corn may be curtailed,” he said.

He explained that Southern rust can be differentiated from common rust by the color of the pustules and the arrangement of the pustules on the leaf. “Common rust has elongate golden brown to cinnamon brown pustules that are randomly distributed on the upper surface of the leaf. The common rust pustules can also develop on the underside of the leaf. Southern rust pustules are orange in color and are clustered on the upper surface of the leaf,” Byamukama said.

All corn hybrids are susceptible to southern rust as opposed to common rust, where resistance and tolerance have been incorporated to most hybrids. Producers whose corn has not yet dented should scout their field and assess the extent of southern rust development. Southern rust severity reaching 15 percent on ear leaf and above may require a fungicide application.

To learn more, visit iGrow.org.

**Hay Removal Deadline Is Oct. 1**

PIERRE — The South Dakota Department of Transportation requests the cooperation of all farmers and ranchers in removing processed hay from the highway right of way.

State regulations require that hay be removed from the right of way within 30 days of being processed, but no later than Oct. 1.

Removing hay bales from the highway right of way is an important safety consideration for motorists. The bales or stacks can be a safety hazard for vehicles forced to leave the road and, in some cases, can restrict a driver’s sight distance. Hay left in the road ditches late in the year can also cause snowdrifts across the highway.

For more information, contact the office of Operations Support at 605-773-3571.



PHOTO: RITA BRHEL

Cranes are seen soaring over Nebraska farmland recently.

**After The Harvest**

A Look At Post-Harvest Field Treatments To Manage Residual Corn, For Migratory Birds Or To Control Volunteer Corn In A Crop Rotation

BY RITA BRHEL  
P&D Correspondent

With the flip of the calendar, area farmers not only find themselves watching their corn and soybean fields beginning to turn brown. Another sign of fall to begin later this month is V-shaped flocks of honking geese and calling cranes heading back south to their overwintering grounds.

While not as impressive of an event as their spring migration in the Platte River valley of Nebraska, Sandhill cranes do make stops in the fall to feed and rest in wetland areas from Canada to South Dakota and farther south with less frequency and predictability through Nebraska and south to the Mexico border. According to the Southeast South Dakota Birding Trail, Sandhill cranes are annual migrants throughout the fields in the western counties of the area. Even though rare, Whooping cranes have been sighted in these areas during both spring and fall migrations.

Since the days of the settlers turning over the virgin sod on the prairie, Midwest farmers have had to maintain a balance between agricultural profit and environmental conservation. It’s no less important today when the world’s exploding population demands farmers to produce higher yields than ever before. Many, including Andy Bishop, coordinator of the Rainwater Basin Joint Venture (RBJV) in Grand Island, Nebraska, would argue that maintaining that delicate bal-

ance is even more important, as the Midwest’s changing landscape during the past 60 years — during which wetlands were drained to turn pastures into cropland — has led to profound habitat loss and plummeting waterfowl populations.

fer among post-harvest field treatments but rather varied according to how well the corn did in the previous year. Therefore, if the corn yield was higher, more residual corn was left in the field by spring migration. If the corn yield was lower, less residual

serve as stops for spring geese and cranes could choose to use this information to ensure that these birds have the most opportunity to find good nutrition during their semiannual flight. For producers whose fields do not host migratory birds in the spring, this research could aid in determining the best way to minimize residual corn leftover, particularly for fields involved in a crop rotation. Tilling, if the weather allows for it, could have the potential to reduce volunteer corn during a soybean year. Certainly, grazing could also reduce volunteer corn as well as provide low-cost grain to livestock.

**While the researchers recognized that a long-term decrease in residual corn since the 1970s has been occurring due to increasing harvest efficiency, their data show that post-harvest management of cornfields has a substantial effect on how much residual corn is available to migratory birds in the spring.**

The RBJV hopes “to demonstrate that agriculture and wildlife habitat can not only coexist but thrive together,” Bishop said.

Though farmers’ impact on migratory birds’ stops is minor in the fall, how corn producers manage their fall harvest and overwintering field residue can make a big difference for visiting ducks, cranes and geese in the spring.

Mark Sherfy and Michael Anteau, researchers with the U.S. Geological Survey’s Northern Prairie Wildlife Research Center in Jamestown, North Dakota, along with Bishop, studied the effects of agricultural practices on waterfowl and cranes specific to the spring migration. What they found was that residual corn density was greater in harvested cornfields left idle than in fields given any other treatments, including grazing, mulching and tilling. Not surprisingly, tilled fields had the least amount of residual corn.

They also found that depletion of residual corn through the winter didn’t dif-

fer among post-harvest field treatments but rather varied according to how well the corn did in the previous year.

Generally, migratory birds stop to feed in cornfields in the same areas year after year, so this research can be used in two different ways. For farmers whose fields

corn made it through the winter. While the researchers recognized that a long-term decrease in residual corn since the 1970s has been occurring due to increasing harvest efficiency, their data show that post-harvest management of cornfields has a substantial effect on how much residual corn is available to migratory birds in the spring.

For farmers whose fields

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