

# Winterkill study shows yields not always affected

Research conducted by Kansas State University shows that when it comes to winterkill and wheat yields, things are not always equal.

"Contrary to what some people might think, we found that a percentage of winterkill loss does not result in the same percentage yield loss," Merle Witt, southwest area agronomist with K-State Research and Extension, said. "Also, growing conditions in early spring when tillering is occurring and during the grain-filling period when kernel numbers and kernel size are being determined affect the extent to which winterkill damage expresses itself.

"Thus, 25-percent winterkill damage in one year may not be as damaging as the same percent winterkill in another year."

Mr. Witt's study, which simulated winterkill in Kansas wheat, was conducted over a two-year period at the Southwest Research-Extension Center near Garden City. The site was a Ulysses silt loam soil in a wheat-fallow rotation. To reflect a range of winterkill levels, four treatments were used: 0 (check) percent winterkill; 25 percent; 50 percent and 75 percent winterkill.

In the study's first year, wheat plants were hoed out in February to the appropriate winterkill levels. In

the second year, a beardless, spring wheat variety was mixed at planting with winter wheat varieties so that when the spring wheat died during winter, the result was the desired levels of winterkill damage. Two winter wheat varieties, TAM 107 and Trego, were used.

The average yield for the check treatment (0-percent winterkill) in the first year was about 59 bushels per acre. The yield for the 25-percent winterkill treatment was 55.3 bushels per acre or about a 6.5-percent yield loss. For the 75-percent winterkill treatment, the yield was 46.8 bushels per acre or about a 21-percent yield loss.

Average yields in the second year of the study were lower because growing conditions during grain-filling were not as good, Mr. Witt said. The check or 0-percent winterkill treatment yielded 46 bushels per acre. The 25-percent winterkill treatment yielded 39 bushels per acre or close to a 15-percent yield loss. The average yield for 50-percent winterkill treatment was 32.5 bushels per acre (29.5-percent yield loss), and the average yield for the 75-percent winterkill treatment was 18.5 bushels per acre (59-percent yield loss).

In both years, the most severe winterkill treatment resulted in a delay in the heading date.

"This (delay) is a common occurrence and probably would be more pronounced in a field situation where there was winterkill in a pure stand of winter wheat, instead of the (killed) spring wheat of the spring-winter wheat mixture that was used in this experiment," Mr. Witt said.

"Also, it is common to observe a



**TYE FAULKENDER, Extension Director, checks winterkill on a wheat field in Cheyenne County.** Times staff photo by Karen Krien

reduction in test weights with delayed heading dates. The first year there was only a small reduction in test weights, while in the second year, with less conducive growing conditions, there was a 3.5-pound-per-bushel reduction in test weight from the 0-percent winterkill treatment to the 75-percent winterkill treatment.

"The study gave us a range of expected yield losses over a range

of winterkill damage. A limitation of the study, however, is the fact that winterkill damage was distributed uniformly over the study area and that doesn't normally occur in a field-wide situation," he said.

"Generally, winterkill damage occurs on terraces and elevated areas of the field where soils tend to be drier and it can be large areas of the field with little chance for the surviving plants to compensate."

# Couple plan wedding

Shelly Cox and Dustin Petz, children of Bob and Sheryl Cox of Hays, Sherrie Antholz of Topeka and Darrell Petz of Bird City, announce their engagement and approaching marriage.

Shelly is the granddaughter of Alfred Dorman of Lucas and the late Dorthea Dorman, the late Robert and Billie Cox, formerly of Murphy, N.C., and the late C.K. and Nellie Fisher, formerly of McDonald.

Dustin is the grandson of Nadine Flemming of Bird city and the late Jo Flemming and Delores Petz of McCracken and the late Donald Petz.

The prospective bride graduated from Hays High School, received a bachelor of science degree in psychology from Kansas State University and a master's of divinity degree from Saint Paul School of Theology in Kansas City, Mo. She is currently serving as pastor at the



**Cox - Petz**

Logan and Long Island United Methodist churches.

The prospective groom graduated from Cheylin High School, received a bachelor of science degree in agribusiness from Kansas State University and a master's of divinity from Saint Paul School of Theology. He is currently serving as pastor at Tabernacle Memorial United Methodist Church in Philadelphia, Pa., and working on a master of theology degree at Princeton Theological Seminary.

The couple plans to be married on May 15 at Camp Lakeside near Scott City. Following the wedding, they will reside in Philadelphia.

# Donors give over limit

The American Red Cross blood drive, held Jan. 15 in St. Francis, had 130 donors, 30 pints over the 100 goal set by the American Red Cross.

Ruth Moore, who chaired the drive which was hosted by the local Rebekah Lodge, reported there were 22 people who donated blood for the first time.

"The response we have each time we hold a blood drive is great!" she said.

The American Red Cross was

calling for all eligible blood donors but noted that types O-negative and O-positive were especially needed. A blood drive is generally held twice a year and donors will either be called when the next drive is held in the county or there will be articles in *The Saint Francis Herald* and *Bird City Times*.



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