

Cold tolerance rating helps no-till corn

LEXINGTON, Ky. — Research tests and field experience indicate that rating the cold tolerance of corn hybrids could "open the door" for growers using no-till or reduced tillage farming methods.

"With the trend toward no-till methods and the universal acceptance of early planting as a key to top corn profits, growers need a means of 'pushing back' the beginning of the planting season," comments Kenneth Wells, University of Kentucky extension agronomist. "It's particularly important for large-acreage growers to allow seeding some fields extremely early," he adds.

"In tests where University of Kentucky plant scientists measured soil temperatures under no-till conditions, two features were constant," Wells continued. First, soil in no-tilled fields is usually 2 degrees to 4 degrees cooler than conventionally tilled soil. Second, there is much less temperature fluctuation during a 24-hour period than there is in soil that is not "insulated" with crop residues. Thus, the seed is exposed to stress for longer periods during the day under no-till conditions.

Those test results correspond with measurements made at corn research centers where cold tolerance ratings are made on

Northrup King Co. hybrids, according to Matt Shubat, NK corn technical services manager. The cold tolerance rating is a combined measurement of rate of emergence, percentage of emergence at 30 days after planting, and total dry weight of the plant approximately 42 days after planting.

"The data pinpoints a need for hybrids with the genetic potential to germinate under colder, wetter soil conditions and grow normally after seedling emergence," Shubat continues.

The concern on the part of growers and others to conserve soil, save fuel, and reduce compaction has already encouraged one-third of all U.S. corn farmers to try reduced tillage on some of their acreage, according to a survey conducted for NK in 1981.

"We got tired of watching our dollars blow away in the dust," is how George McDonald, 1981 Tennessee NCGA champ, explains his decision to try no-till. "We have sloping fields ranging from 2% to 7%, so water erosion is also a problem."

Last year McDonald, who was named one of our 1981 FFA Regional Star Farmers for the U.S., no-tilled 145 acres of corn into fescue or orchardgrass stubble. He also minimum tilled 55 acres of corn in rotation with wheat and soybeans. Planting extended from March 14 to March 23. "Soil temperature on the 14th was 52 degrees, but there was considerable fluctuation in temperatures during the planting

period," McDonald says.

"We believe in cold tolerance ratings," he says. "We test plot several varieties to determine seedling vigor and try to select those, such as NK's PX74, which combines at least medium cold tolerance with other traits necessary for top yields."

"Growing top corn can't be pinned down to any one thing we do, but we have learned that if growth of the plant ever slows down, it will affect your final yield," McDonald states.

Murray Corriher, China Grove, North Carolina, has four NCGA championship trophies that also came from fields of no-tilled PX74. He also likes to combine cold tolerance rating with a hybrid's yield potential so he can start planting by April 1.

"Around here, it's likely that soil temperature will be as high as 60 degrees when the sun is high, but it will get a lot colder than that later in the day," Corriher comments.

Research at Northrup King shows that many cold tolerant hybrids can germinate and grow at temperatures under 50 degrees Fahrenheit. "We've observed inbred lines which germinate at 45 degrees," says Shubat. Recent tests at Iowa State University indicate that inbred selections which rate very high in cold tolerance can survive soil temperatures as low as 40 degrees.

"There is little question that the trend to more no-till will continue," Shubat concludes. "We're proud to take a leadership position by providing growers with a means of quickly determining which hybrids can perform best for both no-till and early planting conditions. Once they learn to use cold tolerance ratings as part of their hybrid selection process, they'll see that it lets them confidently choose a hybrid which has the best potential to produce a good stand and grow well."

York Co. DHIA

(Continued from Page D20)

462	3	5-1	305	24,963	2	670
468	3	4-8	305	24,191	3.6	868
481	3	4-2	305	23,916	3.0	711
490	3	4-4	305	24,776	3.0	739
137	3	3-0	305	19,248	3.2	616
181	3	2-2	305	16,834	3.9	650
185	3	2-6	305	17,082	3.8	654
187	3	2-3	304	15,139	3.3	501
190	3	2-6	305	18,020	2.9	516
192	3	2-3	301	14,357	3.5	502
William Ruppert						
Jennie	3	10-4	278	14,446	3.9	565
Top	3	11-7	305	23,172	3.6	824
Melody	3	9-11	305	18,523	3.4	623
Glow	3	7-2	305	17,736	4.0	707
Red	3	7-7	305	21,769	3.8	837
Donna	3	3-3	305	19,859	3.0	587
9983	3	2-0	305	17,756	3.6	633
Eisenhart Bros						
257	3	5-0	305	18,777	3.4	635
300	3	3-1	305	15,068	3.5	521
301	3	3-1	305	14,551	3.7	537
327	3	2-3	305	14,364	3.8	541
Wayne E. Myers						
Linda	3	4-1	305	21,674	4.6	991
Fiti	3	1-11	305	17,764	3.7	662

Foam marker aids no-till

NORTHBROOK, Ill. — A foam marking system designed specifically for the farmer has just been introduced by Precision Laboratories, Inc. Called "Trailblazer — The Farmer's Foamer", the unit is easily installed on all types of planters, drills and sprayers. It is particularly useful in no-till planting to avoid skips and overlaps and assure accuracy in planting and spraying.

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For further information contact Precision Laboratories, Inc., Dept. TB, P.O. Box 127, Northbrook, Ill. 60062 or call toll free 1-800-323-6280. In Illinois call 312-498-0800.

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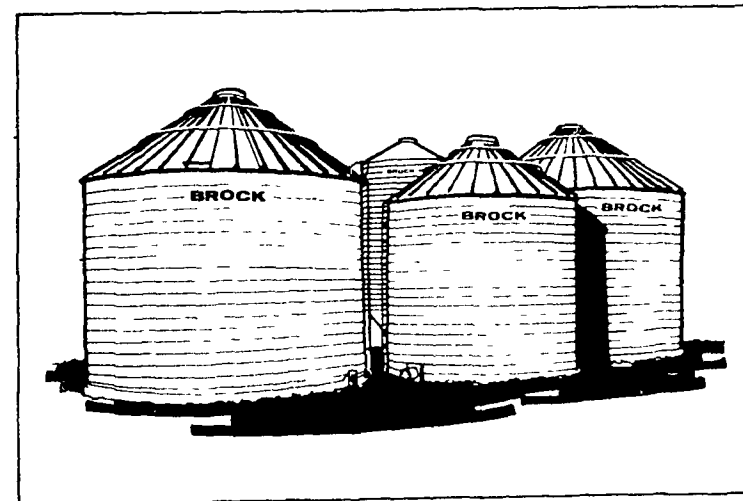
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