



K-STATE
Research and Extension

Extension Agronomy

eUpdate

03/28/2022

These e-Updates are a regular weekly item from K-State Extension Agronomy and Kathy Gehl, Agronomy eUpdate Editor. All of the Research and Extension faculty in Agronomy will be involved as sources from time to time. If you have any questions or suggestions for topics you'd like to have us address in this weekly update, contact Kathy Gehl, 785-532-3354 kgehl@ksu.edu, or Dalas Peterson, Extension Agronomy State Leader and Weed Management Specialist 785-532-0405 dpeterso@ksu.edu.

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Cattle should be removed from wheat pastures when the crop reaches first hollow stem (FHS). Grazing past this stage can severely affect wheat yields (for a full explanation, please refer to the eUpdate article "[Optimal time to remove cattle from wheat pastures: First hollow stem](#)").

First hollow stem update

In order to screen for FHS during this important time in the growing season, the K-State Extension Wheat and Forages crew measures FHS on a weekly basis in 19 different commonly grown wheat varieties in Kansas. The varieties are in a September-sown replicated trial at the South Central Experiment Field near Hutchinson.

Ten stems are split open per variety per replication (Figure 1), for a total of 40 stems monitored per variety. The average length of hollow stem is reported for each variety in Table 1.



Figure 1. Ten main wheat stems were split open per replication per variety to estimate first hollow stem for this report, for a total of 40 stems split per variety. Photo by Romulo Lollato, K-State Research and Extension.

Table 1. Length of hollow stem measured on 9, 15, 21, and 24 of March 2022 of 19 wheat

varieties sown mid-September 2021 at the South Central Experiment Field near Hutchinson. The critical FHS length is 1.5 cm (about a half-inch or the diameter of a dime). Value(s) in bold indicate the highest FHS group. Values highlighted in yellow indicate varieties that have already passed the 1.5 cm first hollow stem threshold.

Variety	First hollow stem (cm)			
	3/9/2022	3/15/2022	3/21/2022	3/24/2022
AP Exp#1	0.2	0.3	1.0	1.6
AP Roadrunner	0.7	1.0	1.9	.
AP18AX	0.6	0.6	2.9	.
AM Cartwright	0.3	0.5	0.8	1.5
Crescent AX	0.4	0.8	2.1	.
KS Ahearn	0.3	0.3	0.6	1.2
KS Hatchett	0.1	0.5	1.0	1.3
KS13DH0041-25	0.2	0.5	1.2	1.5
LCS Atomic AX	0.5	0.6	1.7	.
LCS Chrome	0.2	0.5	1.1	1.4
LCS Helix AX	0.3	0.4	1.1	1.4
LCS Julep	0.2	0.3	0.8	1.0
LCS Photon AX	0.4	0.5	1.3	1.7
LCS Revere	0.2	0.2	0.5	1.0
LCS Runner	0.2	0.2	0.8	0.8
LCS Steel AX	0.3	0.3	1.0	1.4
LCS Valiant	0.2	0.3	1.1	1.9
Plains Gold Ray	0.3	0.4	0.9	1.4
Zenda	0.5	1.2	2.3	.
Average	0.3	0.5	1.3	1.4
Min.	0.1	0.2	0.5	0.8
Max	0.7	1.2	2.9	1.9

The wheat varieties AP Roadrunner, AP 18AX, Crescent AX, LCS Atomic AX, and Zenda had all reached the critical first hollow stem value of 1.5 cm as of March 21, 2022, and the varieties AP Exp#1, AM Cartwright, KS13DH0041-25, LCS Photon AX, and LCS Valiant had reached first hollow stem as of March 24. All remaining varieties had also started to elongate the stem at different rates and there were statistical differences among the varieties evaluated. We will report first hollow stem during the next few weeks again until all varieties are past this stage. Additionally, first hollow stem is generally achieved within a few days from when the stem starts to elongate, so we advise producers to closely monitor their wheat pastures at this time.

The intention of this report is to provide producers an update on the progress of first hollow stem development in different wheat varieties. Producers should use this information as a guide, but it is extremely important to monitor FHS from an ungrazed portion of each individual wheat pasture to take the decision of removing cattle from wheat pastures.

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