

News Column

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For Release 08/01/16  
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## NUTRIENTS IN CROP RESIDUE

One of my college friends -- a female -- reminds me that I said, when I was about to graduate, that I was looking for a rich girl who could carry buckets. I was 21 years old at the time and headed back to the farm in Phillips County to raise pigs.

I finally got married 10 years later and it is no secret that I settled. I didn't marry a rich girl and she'd have to work out for months to be strong enough to carry two full five-gallon buckets of grain at one time.

Yes, I settled. I was looking for rich and strong, but I settled for brains and beauty instead.

My wife is a farm-raised girl who didn't get to do much farming growing up. She has plenty of allergies, so she found a job at the Brookville Hotel and another one at the local hospital, and let her brother do the farming.

Pam could almost pass for a city girl, but she surprises me sometimes when we talk about farming. She has some pretty strong opinions about plowing, no-till, and maintaining crop residues on the surface. I didn't think she would care, but she is definitely a proponent of no-till farming and a strong believer in conserving soil and moisture.

Pam comes from Saline County and there are still a good number of farmers in that part of the state who burn wheat stubble. Continuous wheat is still fairly common, and there are still some who plow. Pam can't understand why they do any of those things!

Burning wheat stubble is a practice that just doesn't make much sense to me either. (I agree with her on the other points too – maybe that's why she has become so opinionated.) I understand the need to control cheatgrass and I understand the desire to control diseases, but there are other ways to do those things. Crop rotation gets my vote, and is a common farming practice for most Kansas farmers. Yet, there are still some who like to burn wheat stubble.

There are two problem with burning wheat stubble that I see. First, we destroy all of the residue and don't have a cover left to protect the soil from wind and water erosion. And the second problem is the amount of nutrients that leave the field with the smoke.

Phosphorus and potassium will remain in the ash when wheat stubble is burned, but about 1/3 to 1/2 of nitrogen and sulfur will combust and leave the field.

A 50 bushel per acre wheat crop will, on average, leave 5,000 pounds of residue per acre containing 27 pounds of nitrogen, 7.5 pounds of phosphorus, 37.5 pounds of potassium and 5 pounds of sulfur.

When wheat stubble is burned phosphorus and potassium will stay on the field in the ash, but about 10-13 pounds of nitrogen and 2.5 pounds of sulfur will go up in smoke. At roughly 50 cents per pound, that's about \$7 per acre in lost nutrients. What a waste!

Add in the moisture lost when soil is left exposed, and the potential for erosion, and my wife is even more right than she even knows. Burning wheat stubble is a bad idea.

By the way, my wife IS always right. This time I'm going to agree with her though — that'll mess with her mind!

If you have questions, you can reach me at the Riley County Extension Office at 785/537-6350. Or, you can send e-mail to [gmcclure@ksu.edu](mailto:gmcclure@ksu.edu).

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