Changes in a 4 Year Crop Rotation after 100 Years: The Historic Sanborn Field Experience. (A08-troesser111233-Poster)

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Abstract:

Little is know about the long-term influence of changes in the management of crop rotations. This paper summarizes the first three cycles of a corn-soybean-wheat-red clover rotation initiated on historical Sanborn Field in 1991 after 100 years of other crop management schemes. Each crop was grown each year on two plots. One plot was fertilized to full fertility for the specific crop, whereas the comparison plot was full fertility without nitrogen for the corn and wheat crops. After the third cycle in the rotation, yields from the various crops showed differences. In all three comparisons the wheat yields after the third cycle were larger in the full fertility versus the full fertility minus nitrogen. Two out of three wheat yield comparisons showed a yield advantage after the second cycle. Soybean yeilds for the three-cycle period showed a yield increase in the full fertility plots in two out of three comparisons. The third soybean comparison yielded the same in the full fertility and the full fertility minus nitrogen. After the third cycle in the rotation, corn yields were greater in the full fertility plots in two out of the three plots. Climate appears to be a major factor in the diversity of yields with itme after the rotation initiation.

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