Can researchers make a biotech wheat that's not a GMO?

>Researchers have discovered "the most famous wheat gene," a reproductive traffic cop of sorts that can be used to transfer valuable genes from other plants to wheat.

The discovery clears the way for breeders to develop wheat varieties with the disease- and pest-resistance traits of other grasses, using a legion of genetic tools that can reduce crop losses and pesticide use while foregoing the cost, regulatory hurdles and controversy of Genetically Modified Organisms, or GMOs.

"The real exciting part of this gene is that it has tremendous potential for application," said Kulvinder Gill, a WSU professor, who reports his findings in the journal *Proceedings of the National Academy of Sciences*.

Though it would be genetic modification, because of precise legal definitions that ban some genetic optimization but allow mutagenesis and other older forms of genetic modification, it would not have the same regulatory hurdles and controversy of modern GMOs.

Starting in 1958, just five years after the discovery of DNA's double-helix structure, researchers suspected that a specific gene controls the orderly pairing of wheat chromosomes during reproduction.

"If this gene was not present, there would be chaos in the nucleus," said Gill. But the gene also prevents wheat from breeding with related ancestors that can contain a vast array of traits preferred by growers.

Interest in the gene, called Ph1, has spawned scores of research papers, making it what Gill called, "the most famous wheat gene."

In 2006, British researchers writing in *Nature* said they identified the gene.

"In this paper," said Gill, "we show that their gene is not the Ph1."

Knowing their findings would be controversial, Gill and his colleagues spent a year repeating the experiments that led to their conclusion. They are now moving on.

Read the full, original article: Genetically modified wheat, without the GMO drama