

Good dirt: What great- grandmother knew

What is crop rotation?
Why does it matter?





What is crop rotation?

How is corn, squash and beans math?



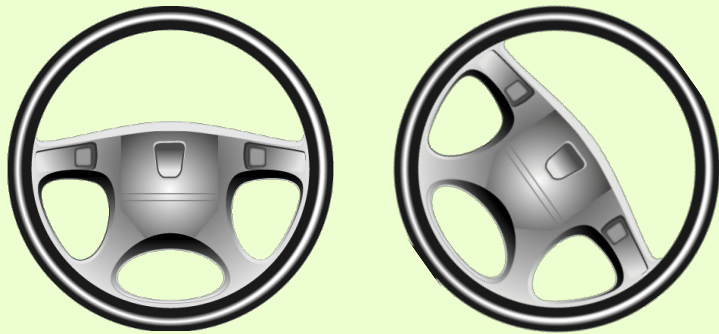
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What does that have to do with corn?
Or the Mandan?

Crop Rotation

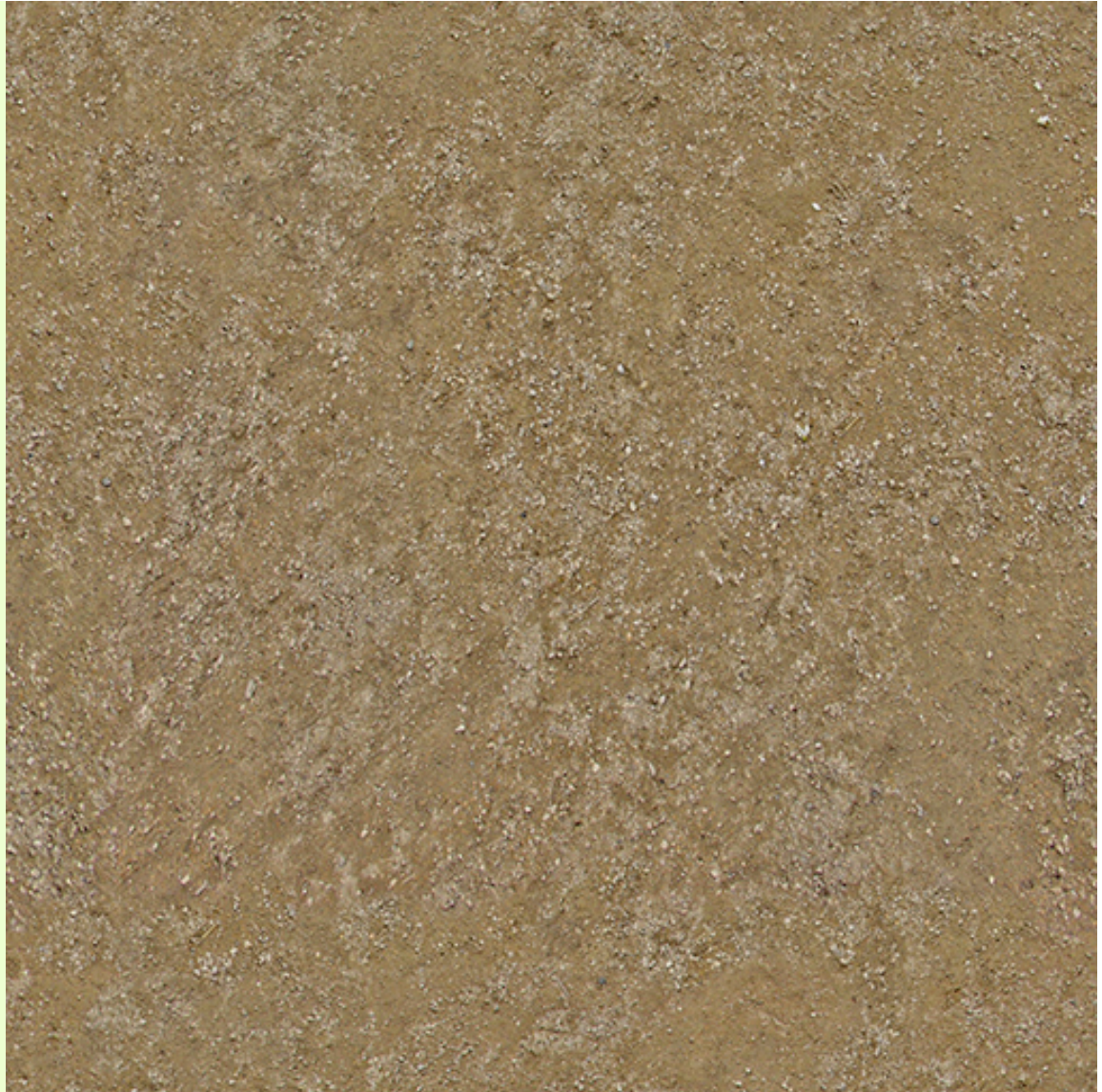
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Soil is another word for dirt.

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Crop Rotation

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Crops like corn, squash or beans all need food to grow, just like people

*Different crops
take different food
from the soil.*

*We often call the food plants
get from the soil "nutrients".*



*Imagine if you
and your cousin
liked different
foods*





*She really likes corn and
you really like apples*

Think of Crop Rotation Like Foods

You each eat the foods you like

- » If you and your cousin like different things, that's great!
- » You get the apples, she gets the corn and everyone is happy!
- » BUT If you both liked the same food, you might run out of corn, and everyone would be hungry.

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Crops take the nutrients they need from the soil

- » If you ROTATE different crops each year, one year the corn uses up a lot of nitrogen – that's a kind of nutrient.
- » The next year you plant beans and not only does it not need nitrogen, it actually PUTS NITROGEN INTO THE SOIL!
- » Crazy, right? It's almost as if your cousin brought you the apples she didn't want to eat!

The Mandan and Hidatsa practiced crop rotation for hundreds of years.

They called corn, beans and squash the “three sisters”.

Each year they would plant $\frac{1}{3}$ of the fields with beans, $\frac{1}{3}$ with corn and $\frac{1}{3}$ with squash.

The next year they would rotate.



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Year 1



Year 2



Year 3

After 3 years, they would start the crop rotation cycle all over again.

By understanding that the soil would be healthy if it did not need to provide the same nutrients every year, the Mandan and Hidatsa were able to continue growing crops in the same gardens.

