Plant science helps the natural water cycle be more efficient. Learn how plant biotech and pesticides help crops more efficiently use water, prevent runoff and erosion, and help increase soil moisture.

**PRECIPITATION**
- Non irrigated: Crops rely solely upon rainfall for their water needs.
- Irrigated: Crops are supplied with water from channels, sprinklers, or other mechanisms to help them grow.

**TRANSPIRATION**
Transpiration is the loss of water through a plant’s leaves, stems, and flowers. It is the process that brings water to a plant’s extremities from the root and the rate at which that happens determines how much water a plant needs. Water efficient GMO traits can help to reduce transpiration by 17.5% under stress conditions and allow crops to use water more efficiently.

**DROUGHT**
A prolonged period of abnormally low rainfall, leading to a shortage of water. Drought-tolerant crops – like certain varieties of corn - can better use the moisture in the soil and survive for long periods of less water.

**EVAPORATION**
The heat from the sun causes moisture in the soil and the water in oceans, rivers, and lakes to evaporate back into the atmosphere where the whole process begins again!

**SURFACE RUNOFF/EROSION**
Surface runoff and erosion deteriorate soil health and contaminate waterways. Pesticides and other ag innovation help prevent erosion and runoff by enabling no-till farming practices. Fewer passes with the tractor allow soil to maintain its nutrients and grow better, healthier crops with fewer inputs.

**SOIL MOISTURE**
Soil moisture is essential to crop health and determined by rainfall, drought conditions, and the rest of the water cycle. It can help or hurt a farmer’s ability to grow enough food. Plant science can increase soil moisture by enabling no-till farming meaning less water needs to be used for agriculture.