**Comparison of Carbon Stocks in Perennial and Annual Forages**

* + - 1. When we measure carbon sequestration in a system, what are we measuring?
         1. The balance between carbon gain (photosynthesis) and carbon loss (plant and soil respiration).
         2. Photosynthesis alone.
         3. Water transpiration.
         4. The difference between maximum and minimum temperatures.
         5. None of the above.
      2. Carbon sequestration is a strategy to mitigate climate change. On a farm, carbon that is fixed by plants can end up stored in the soil as organic matter. Which one below is FALSE about soil organic matter?
         1. Increase in soil organic matter increases soil nutrient holding capacity.
         2. If we increase soil organic matter, we also increase soil water holding capacity.
         3. Soil disturbance, such as tilling, can cause losses of soil organic matter and release of carbon dioxide (a greenhouse gas) into the atmosphere.
         4. Soil microorganisms are key players in the process of carbon sequestration.
         5. Once carbon is fixed in the soil, it can never be lost.
      3. Which of the following forage systems is most likely to provide soil organic carbon gains?
         1. Continuous corn silage
         2. Well-managed pasture
         3. Alfalfa
         4. Corn silage followed by cover crops
         5. All of the above
      4. Field management practices affect soil carbon. Which of these practices is associated with improvements in soil organic carbon stocks?
         1. Conventional tillage
         2. Rotating annual crops
         3. Manure application
         4. None of the above
         5. All of the above
      5. Which of the following best describes the difference between “weather” and “climate”?
         1. Weather describes local conditions, climate describes global conditions.
         2. Weather is short-term while climate summarizes long-term trends in weather patterns (decades or more).
         3. Weather is what is happening today, while climate describes the ancient past.
         4. Extreme storms are weather events, while climate excludes these extremes.
         5. None of the above