Roots for the Road

Stone, Emma (School: Brush High School)
Leake, Reiley (School: Brush High School)

Our project tested the theory that cattail roots could produce a sufficient amount of ethanol to be considered a viable supplement in the production of ethanol used as a clean burning fuel additive. We decided to compare the ethanol production of cattail roots to corn, the most commonly used product for ethanol production, and sugar beets, a product that has been considered as a supplement to corn. We tested our theory by using the same procedure to make ethanol from cattail roots, sugar beets and corn. For the first test we filled a container with 125 mg of distilled water. Then we added 1 gram of yeast. Next, we added 1 gram of dried and ground cattail roots to the mixture. Three probes measuring C02, temperature, and ethanol were attached through the top of a sealed container. A LabQuest device took measurements through the probes every ten minutes for twenty four hours. This same procedure was repeated with ground and dried sugar beets and field corn. We analyzed the data and found that our hypothesis was incorrect. Cattail roots and sugar beets both produced a significantly greater amount of ethanol than corn. We feel that cattails should be considered for use to produce clean burning ethanol. This would allow more corn, the material currently in use to produce ethanol, to be used for food and for production of many other essential products in our economy including medicines, plastics and textiles.

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