OAK RIDGE NATIONAL LABORATORY
Managed by UT-Battelle for the Department of Energy

Biofuel production from whole Agave plants

Disclosure Number

201303016

Technology Summary

If the semi-arid (rainfall <31 inches) regions in the western half of the US could be used to grow biomass for conversion to biofuels, additional sources of biofuels needed to displace petroleum could be produced from otherwise unproductive lands. Agave plants are productive under semi-arid conditions but early research at ORNL showed the whole Agave plants, with the exception of the A tequilana species regulated by the Mexican government, are not fermentable with well-established biomass bioprocessing approaches. Research has determined conditions that permit rapid fermentation of multiple whole Agave plants to biofuels, including those that are more cold-tolerant aimed at production in the US west. We have also developed a recommended process for bioconversion of the whole Agave and discovered an unregulated Agave species that ferments as well as A tequilana.

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