BioFuel Crossword
Across

2. Any chemical or heat process used to convert a feedstock to a gaseous fuel
4. A molecule composed of long chains of alpha-glucose molecules linked together (repeating unit C12H22O5)
11. The carbohydrate that is the principal constituent of wood and other biomass and forms the structural framework of the wood cells. It is a polymer of glucose with a repeating unit of CAH1O5 formed together by beta-glycosidic linkages
12. A long-chain carbohydrate containing at least three molecules of simple sugars linked together
13. A biochemical reaction that breaks down complex molecules into simpler materials (such as ethanol, carbon dioxide, and water). Saccharin or yeasts can ferment sugars to ethanol
15. A mixture of carbon monoxide (CO) and hydrogen (H2) which is the product of high temperature gasification of organic material such as biomass
16. Xylose — A polymer of xylene with a repeating unit of C5H10O5, found in the hemicellulose fraction of biomass
19. The major noncarbohydrate, polymeric structural constituent of wood and other native plant material that accounts for the cell walls and cements the cells together
20. The dried stalks and leaves of a crop remaining after the grain has been harvested
21. A gaseous mixture of carbon dioxide and methane produced by the anaerobic digestion of organic matter

Down

1. The breaking apart of complex molecules by heating in the absence of oxygen, producing solid, liquid, and gaseous fuels
3. A conversion process using acids, bases, or enzymes in which long-chain carbohydrates are broken down into their constituent fermentable sugars
5. A family of enzymes that break down cellulose into glucose molecules
6. Abbreviation for fatty acid methyl ester can be created by a catalyzed reaction between fatty acids and methanol
7. Term means a facility (including equipment and processes) that converts renewable biomass into biofuels and biobased products, and may produce electricity
8. A clear, colorless, flammable oxygenated hydrocarbon which is typically produced chemically or biologically from the fermentation of various sugars from carbohydrates found in agricultural crops and cellular residues from crops or wood. It is used in the United States as a gasoline antiknock agent and coagulant (blended up to 10 percent concentration), can also be used in high concentrations (85%) in vehicles designed for its use
10. The resulting substances and materials that accompany the production of a fuel product such as ethanol
14. The production, conversion, and use of materials directly or indirectly produced by photosynthesis (including organic waste) to manufacture fuels and substances for petrochemical and other energy-intensive products
17. The major noncarbohydrate, polymeric structural constituent of wood and other native plant material that accounts for the cell walls and cements the cells together
22. Simple photosynthetic plants containing chlorophyll, often fast-growing and able to live in freshwater, seawater, or damp soils. May be unicellular and microscopic or very large