**Biorenewable Pre-Test**

**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. What are the two primary biofuels produced in Iowa?
2. Which of the following is not a fossil fuel?
   1. Natural gas
   2. Coal
   3. Wood chips
   4. Diesel
3. Plants obtain their carbon from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
   1. Soil
   2. Water
   3. Air
   4. Sun
4. What greenhouse gas is primarily emitted from gasoline burning cars?
   1. CO
   2. NO2
   3. CO2
   4. methane
5. What state in the United States produces the most ethanol?
   1. Iowa
   2. Illinois
   3. Nebraska
   4. Minnesota
6. Using 10% ethanol in new car’s engines damages the engine’s seals.
   1. True
   2. False
7. Which of the follow can not be used to produce biodiesel?
   1. Corn oil
   2. Soybean oil
   3. Waste frying oil
   4. Crude oil
8. Which of the following is not an advantage of biodiesel?
   1. Increases lubrication in the engine
   2. Safer than standard diesel
   3. Raises particulate matter
   4. Requires minor engine alterations
9. Which of the following is not an advantage of using biofuels instead of petroleum?
   1. Biofuels are renewable
   2. Biofuels work well at low temperatures
   3. Biofuels are produced domestically
   4. Biofuels can be made from different materials
10. What is the process that plants use to produce their own food?
    1. Respiration
    2. Photosynthesis
    3. Aspiration
    4. Fermentation
11. B20 designation at a fueling pump stands for\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
    1. 20% biodiesel content
    2. 80% biodiesel content
    3. 20% petroleum diesel
    4. Number 20 fuel standard for bioiesel
12. The amount of energy per mass unit of a fuel source is its
    1. Energy quality
    2. Energy density
    3. Concentration
    4. None of the above
13. When were the first “modern day” biofuels produced?
    1. Prior to 1900
    2. 1908
    3. 1914
    4. 1973
14. Which of these cannot be used to make biodiesel?
15. Animal fat
16. Fish oil
17. Engine oil
18. Vegetable oil
19. Which by-product of vegetable oil should not be in biodiesel?
20. Methanol
21. Glycerol
22. Lye
23. Soap
24. What is one reason why lye (NaOH) is used in making biodiesel?
25. drying agent
26. catalyst
27. filtration aid
28. solvent
29. What usually makes old, used oil acidic?
30. Free fatty acid (FFA)
31. Hydrochloric acid (HCl)
32. Sulfuric acid (H2SO4)
33. Nitric acid (HNO3)
34. Which of the following is not a product of biodiesel reaction when using lye?
35. Soaps
36. Glycerol
37. Triglycerides
38. None of the above
39. All biofuels are made from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
40. corn
41. vegetable oils
42. animal fats
43. any biological ingredient/source
44. Which of the following is not a potential biofuel?
45. grassoline
46. hydrogen cells
47. gasohol
48. algae diesel
49. With E85 ethanol, the 85 represents the percentage of \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
50. energy in the fuel
51. ethanol in the fuel
52. gasoline in the fuel
53. none of the above
54. What is the primary source of biodiesel?
55. petroleum diesel
56. plant oils
57. animal fats
58. waste oils from restaurants
59. What plant oil was first used to make a biofuel?
60. peanut
61. corn
62. soybean
63. rapeseed/canola
64. When was algae first explored as a biofuel source?
65. 1978
66. 1988
67. 1998
68. 2008
69. What country leads the world in ethanol production?
70. United States
71. Brazil
72. India
73. China
74. How much (%) of the US energy supply comes from biorenwables?
75. 5
76. 7
77. 9
78. 11

1. Most experts consider biodiesel as carbon neutral fuel?
   1. True
   2. False
2. Most experts consider ethanol as carbon neutral fuel?
3. True
4. False
5. What is meant by “second generation biofuels”?
6. a biofuel made from agricultural waste products
7. a biofuel that doesn’t compete with food crops
8. any biofuels made from algae
9. all of the above

Sources:

1. Carter, Ben. Biofuels. MA creative component. ISU Master’s of Professional Ag.

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1. How stuff works. auto.howstuffworks.com/fuel-efficiency/biofuel-quiz
2. plantegreen.discovery.com/games-quizzes/renewables-energy-quiz
3. [www.graha,-laming.com/bd/test/quiz1.htm](http://www.graha,-laming.com/bd/test/quiz1.htm)