

Become a Bioenergy Farmer

Did you know that a lot of food goes to waste each year? It's a big problem for the environment, society, and the economy. Around 8-10% of global greenhouse gas emissions come from wasted food! In Canada alone, we throw away about 80 kilograms of food per person every year, just from our homes. But here's something cool: we can turn all that waste into energy, called biofuel. It's made from things like wood, crops, and even leftover food from animals and humans. By turning waste into biofuel, we're not only preventing harmful gases from getting into the air, but we're also creating fuel and energy for our communities. It's a win-win for everyone involved.

Some of the most commonly used feedstocks in biofuel production are:

Corn: Corn is one of the most widely used feedstocks for biofuel production, particularly in the United States. It is primarily used to produce ethanol.

Sugarcane: Sugarcane is a major feedstock for biofuel production, especially in countries like Brazil. It is used to produce both ethanol and biodiesel.

Soybeans: Soybeans are used to produce biodiesel, mainly in the United States and other soybean-producing regions.

Waste Vegetable Oil (WVO): Waste vegetable oil, often sourced from restaurants and food processing facilities, can be converted into biodiesel.

Algae: Algae are being explored as a promising feedstock for biofuel production due to their high oil content and fast growth rates.

Waste Biomass: Various forms of waste biomass, such as agricultural residues (e.g., straw, corn stover), forestry residues, and municipal solid waste, can be converted into biofuels through processes like pyrolysis and fermentation.

Switchgrass: Switchgrass is a perennial grass native to North America that shows potential as a feedstock for biofuel production, particularly cellulosic ethanol.

Woody Biomass: Wood and woody residues, such as wood chips, sawdust, and forestry waste, can be used to produce biofuels through processes like gasification and pyrolysis.

Hopefully you have heard of some of these, if not that is okay!! Look them up online or at your library.

For this activity, please fill in the empty boxes with 2 or 3 sentences. Research may be required using either the internet or books.

Feedstock	Name a country it can be found.	How long does it take to grow?	Have you seen it before in-person?
Corn			
Sugarcane			
Soybeans			
WVO			
Algae			
Waste Biomass			
Switchgrass			
Woody Biomass			

When completed, take some time and think about other possible natural materials that could be used to create biofuel. Resources are all around us!!