

New Transportation Fuel: Green Plants and Hydrogen, Rajasthan

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Abstract: Heart of Rajasthan, Ajmer with the 8481 sq. km. area is located in the north west of India between 25 0 38 “ and 26 0 58 “ north 75 0 22” E longitude, surrounded all sides by Aravalli mountains. Serpentine hills (Nag Pahar) protects it from becoming desert. Pushkar means “blue lotus”, is old pilgrim near Ajmer. Ajmer also famous for Mayo college, Anasagar, Foyasagar, Soniji ki Nasiyaan, Akbari fort Museum, Nareli jain Teerth and the second holiest shrine after Mecca, is khawaja Moinuddin chisti’s Dargah. Ajmer is located in semi-arid zone so the flora and fauna also adapted to survive in the dry,waterless region of the state.

Petroleum has been used as transportation fuel for more than last 100 years, but it is not fulfilling the need of increasing population , also cause Air pollution . LPG, CNG, Diesel are also used as Fuel. Most promising replacement come from organic biomass crops such as Corn(*Zea mays*), Rapeseed (*Brassica napus*), Sugarcane (*Saccharum officinarum*), Palm oil(*Arecaceae*), *Jatropha (Jatropha curcas)*, Soybean (*Glycine max*), Cotton seed (*Gossypium arboretum*), Sunflower (*Helianthus annuus*),Wheat (*Triticum aestivum*) and Switch grass (*Panicum virgatum*). Biofuels are better than fossil fuels. because :

1. Biofuels are renewable.
2. They lower toxic emission.
3. They burn clean.
4. No need to import them.
5. They can be grown locally and produced locally.

Ethanol is produced from plants and mingled with petroleum diesel and gasoline.Green fuel, biofuel is distilled from plants and animals. It is environment friendly and through fermentation to create ethanol. Oil producing plants, Vegetable oil, coconut oil can be used as fossil oil to create diesel that can be burn by vehicle. One more fungus *Botryococcus braunii* which store more fat (tree fungus) can also provide green fuel.

The organism found in Patagonia rain forest produce a mixture of chemicals that is similar to diesel.

The fungus *Gliocladium roseum* grow inside *Ulmo tree (Eucryphia cordifolia)* North Patagonia produce large amount of long chain hydrocarbon similar to fossil fuel. Green algae can also produce biofuels, 01 acre of algae can produce 200 times as much oil as 01 acre corn. Corn (*Zea mays*), Rapeseed (*Brassica napus*), Sugarcane (*Saccharum officinarum*), can be used as biofuels in Ajmer, Rajasthan.

Hydrogen is also a clean fuel, when used as a fuel produces water only. Thus Biofuel can be produced by green plants which are renewable and clean. Comparative account of biofuel plants

and fossil fuels are studied in the present paper with special reference to Rajasthan.

Key words: Biofuels, Green plants, Fossil fuels, Algae, Fungus.

I. INTRODUCTION

Ajmer is holy district of Rajasthan, surrounded by Aravalli hills, Pushkar means blue lotus. Animals and Plants of Ajmer are adapted for semi-arid climate and are specially adapted to survive in the dry waterless region of the state. Petroleum has been used as transportation fuel for more than last 100 years. But it is not fulfilling the need of increasing population , also cause Air pollution . LPG, CNG, Diesel are also used as Fuel. Most promising replacement come from organic biomass crops such as Corn (*Zea mays*), Rapeseed (*Brassica snapus*), Sugarcane (*Saccharum officinarum*), Palm oil (*Arecaceae*), *Jatropha (Jatropha curcas)* , Soybean (*Glycine max*), Cotton seed (*Gossypium arboretum*), Sunflower (*Helianthus annuus*), Wheat (*Triticum aestivum*) and Switch grass (*Panicum virgatum*). Biofuels are better than fossil fuels.

II. METHOD

Survey was done area wise to identify plants which can be used as biofuels. East, West, North and South Zones.

III. OBSERVATION AND RESULT

Table 1.Area wise plants which can be grown for Biofuel.

Area	Plant species
East	Corn, Rapseed, Sugarcane, Cottonseed, sunflower, Wheat.
West	None
North	Corn, Sugarcane, Cottonseed, Sunflower.
South	Corn, Sugarcane, Cottonseed, Sunflower, Wheat.

IV. CONCLUSION

East towards Tonk Soil moisture is present and soil is fertile due to banas river. West desert is present thorny plants like *Euphorbia caducifolia* and *Echinops echinatus* are present. North soil is also fertile so the corn, sugarcane, wheat, sunflower can be grown. South soil is fertile due to presence of Chambal river and sunflower, sugarcane, Wheat, Cottonseed can be grown for biofuel production.

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