**New methods to evaluate the potential of crop residues as a source of biofuel**

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In recent years along with increasing world population, pressure on the natural resources has been increased too. The reality is that forthcoming population will need more resources to provide their demands, but degradation rate of natural resources is more than their rehabilitation or substitution. Therefore, excessive consumption of resources on the pretext that future generation will find an alternative is not the case. Using new techniques to land evaluation can be very helpful in turning threats into opportunities. Crop residues are one of internal-inputs which could be used as nutrients resources (with special considerations) or bio-fuels (such as ethanol). Unfortunately, every year a considerable amount of crop residues are burned, especially on those cropping systems that a little time is available to seedbed preparation for the next cultivation. Crop residues biomass could be assessed using satellite images and remote sensing methods. For this, satellite-image – base indices are integrated with those data gathered from ground control points and multiple regression models to evaluate land cover biomass. Then allowable percentage of biomass harvesting is determined base on sustainable agriculture standards and potential of ethanol could be assessed for each ecosystem in each geographical coordination scale. This method in combination with those methods which use rest of biomass to close agroecosystems nutrients cycle, is considered as an integrated ecosystem management strategy to reduce the dependence of agroecosystems to external-inputs and increasing self sufficiency and self-efficiency of agroecosystems along with agroecosystems share for fuel production. Undoubtedly, if the necessary infrastructure to convert crop residues into fuel to be provided, in addition to reducing environmental pollution, the possibility of increasing the income of rural communities will be provided. In this presentation, all needed techniques and potentials for crop residues conversion will be discussed.

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