O.I.H.

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE
DEPARTMENT OF AGRICULTURAL RESEARCH & EDUCATION

LOK SABHA
UNSTARRED QUESTION NO. 399
TO BE ANSWERED ON 06/08/2013

RESEARCH ON ETHANOL

399. SHRI RAJU SHETTI:

Will the Minister of AGRICULTURE कृषि मंत्री
be pleased to state:

(a) whether the Government proposes to conduct an intensive research in the field of sugarcane production in view of having the maximum production of ethanol from sugarcane so as to use it in place of petroleum and diesel;

(b) if so, the details thereof; and

(c) if not, the reasons therefor?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FOOD PROCESSING INDUSTRIES
कृषि एवं खाद्य प्रसंस्करण उद्योग मंत्रालय में राज्य मंत्री
(SHRI TARIQ ANWAR)

(a) & (b): Indian Institute of Sugarcane Research (IISR), Lucknow, Sugarcane Breeding Institute (SBI), Coimhatore and All India Coordinated Research Project on Sugarcane under the Indian Council of Agricultural Research (ICAR) carry out basic and applied aspects of research in improving sugarcane productivity. Through ICAR studies, microbial and chemical processes have been developed for generating fermentahle sugars from sugarcane biomass. Biological method for converting sugarcanc trash into fermentable sugars using eight bioagents have been devcloped. Cellulolyuic fungi *Aspergillus terreus*, *Cellulomonas uda* and *Trichoderma reesei* and *Bacillus macerans* have been identified fnr efficient conversion of sugarcane binmass to fermentable sugars for alcohol production. Dilute sulfuric acid pretreatment meihod for convertiog sugarcane biomass into fermentable sugars has been developed and its further saccharification has yielded 45 - 50 % of fermentable sugars. Simultaneous saccharifica-tion and fermentation (SSF) process for ethanol produeuon from pretreated sugarcane biomass has also been developed. Sugarcane varieties with high juice vnlumc and high tntal sugars are suitable for the purpose of yield of alcohol which ranged from 75 to 125 litres per tonne of cane. Improved sugarcanc clones Co 98013, Co 99012, Co 99006 and CoJ 94-8 have been identified. Studies on management of sugarcane for ethanol production showed that application of 280 kg N per hectare in three splits at 45, 90 and 135 days after planting gave higher hiomass and ethanol yield.

(c) Not applicable.

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