

## Paddy stubble burning a huge concern: Scientists

### IISER STUDY FINDS 8-10 TIMES HIGHER BENZENE-DERIVATIVES LEVELS IN PUNJAB

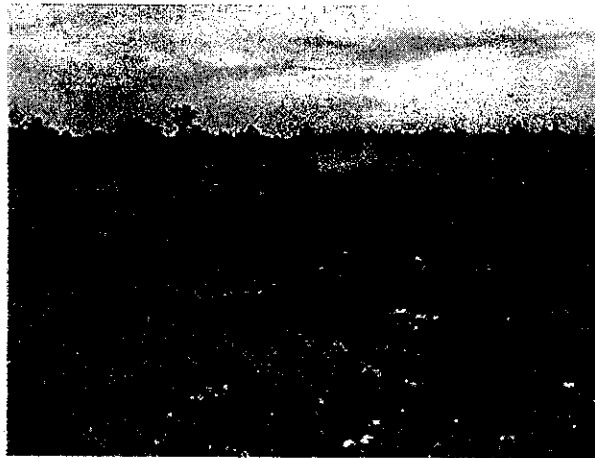
**JAGDEEP SINGH DEEP**  
*Mohali*

Researchers at the Indian Institute of Science Education and Research (IISER) have detected 8-10 times higher levels of carcinogenic chemical Benzene and several of its derivatives in Punjab's ambient air.

Dr Vinayak Sinha, who led the study, attributed the large concentration of Benzene and its derivatives Tri-Methyl Benzene, Dimethyl Benzenes and Methyl Benzene to paddy residue burning during November in the state.

These chemicals are normally emitted in motor vehicle smoke.

The discovery was made at IISER's state-of-the-art atmospheric chemistry facility, which quantifies air pollutants in real time using a new chemical analysis instrument called Proton Transfer Reaction Mass Spectrometer (PTR-MS). This instrument has been deployed within India for the first time by scientists



*Stubble burning paddy.*

FILE PHOTO

at IISER.

According to the scientists, the derivatives are more dangerous than Benzene due to higher reactivity and can cause cancer and respiratory problems.

Dr Sinha said the concentration of the derivatives of Benzene like Toulene, Xylene and Tri-Methyl Benzene were found to be maximum during the days when the farmers burnt the paddy stubble. "The concentration of these

Benzene derivatives was 8 to 10 times more than the prescribed limit of 1.6 parts per billion (PPB) yearly average air quality standard for Benzene set by the Ministry of Environment and Forests in 2009." Dr Sinha said exposure to

such high levels for several weeks in this region was a cause for real concern.

"While the prescribed air quality limits exist for Benzene, the national ambient air quality standards have not been set for these other Benzene derivatives within India as information and awareness about them through systematic studies in India has been missing till now," he added.

Dr Sinha said that earlier motor vehicles were considered the main reason for the emission of Benzene and its derivatives but their study of the air in the region has revealed that paddy stubble burning is also a big reason for their emission.