

# 'Groundnut production may be hit by up to 32% in 50 years'

## Study Recommends Early Sowing Of Gujarat's Main Kharif Crop

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**Ahmedabad:** In a study highlighting the possible impact of climate change, the experts have predicted a drop in the production of groundnut, Gujarat's main kharif crop, by up to 32% by the end of the century.

The state is the largest producer of groundnut in the country.

The projection was made based on a long-range forecast of annual increase in minimum and maximum temperatures by 0.11 and 0.12 degrees

### CLIMATE CHANGE AND IMPACT ON CROP PATTERN

● The Intergovernmental Panel on Climate Change (IPCC) has estimated an increase of 0.74 degrees in the mean temperature in the past 100 years, which is likely to accelerate to 1.8 to 4 degrees by 2100

● Thus, regions with extreme heat will either see decline in benefits or increase in net costs

● Crop simulation model in the present study claims drop in groundnut yield by 28% to 32% if all other factors remain the same

● If the sowing is advanced by 15 days, it can result in 16% higher pod yield. Use of organic manure also improves yield by 11%



● Gujarat is among the five states – others being Rajasthan, Andhra Pradesh, Karnataka, and Tamil Nadu – that account for 82% of acreage and 40% of groundnut production in India

● In Gujarat, top districts with groundnut sowing include Junagadh, Jamnagar, Amreli, Bhavnagar, Rajkot, Mehsana and Bhuj

● The impact of climate change is projected to affect the flowering and maturing of the buds with 12% reduction in the number of days it takes for flowering and 8% reduction in the number of days it takes for maturing

the change in weather conditions, the study suggests early sowing with enough irrigation compared to the current cycle.

The study 'Impact Assessment of Climate Change on Groundnut in North Saurashtra Agro-climatic Zone of Gujarat', by P K Parma from Navsari Agricultural University, and M J Vasani, H R Patel, S B Yadav and V Pandey from Anand Agricultural University, has been published in the January edition of Mausam journal by India Meteorological Department (IMD).

Gujarat accounts for 40.5% of the total groundnut production of India – the sowing was 2.16 lakh hectares in 2020-21 whereas the production was 4.16 million tonnes, followed by 1.39 tonnes in Rajasthan.

The researchers took data from 1961 to 1990 for research station Targhadia near Raj-

kot to create forecasts for 2071-2100 along with the PRE-CIS model based on IITM Pune data.

K L Dobaria, former faculty member of Junagadh Agricultural University, said that high temperatures help in early germination.

"Farmers usually carry out groundnut sowing during summer and monsoon months. In summer, however, the sowing takes place in areas where irrigation is available," he said.

"Many farmers go in for early sowing as they get the benefit of reaching the market early – the early yield fetches a better market price. Early sowing also helps in early germination. Germination takes about eight to 10 days for groundnut crop. If the temperature is very high, germination is faster," said Arvind Dave, a farmer at Dhari in Amreli district.

degrees celsius respectively. The forecast also predicts an in-

crease in annual rainfall by nearly 63% in a period rang-

ing from 2071 to 2100.

To mitigate the impact of