



# **BASAI News Updates**

**Sept. 19, 2022**

# Engineer turns farmer, earns good returns from dragon fruit farming

**PARVEEN ARORA**  
TRIBUNE NEWS SERVICE

**KARNAL, SEPTEMBER 18**

When Kuldeep Rana (32) — who worked as an electrical engineer in South Africa — realised that his heart was in his homeland, he quit his job to become a progressive farmer. He has been growing dragon fruit in Gharaunda and earning good returns (around Rs 15 lakh annually). Besides, he gives training to young farmers who want to follow his footsteps.



Kuldeep Rana at his farmhouse in Karnal.

Inspired by the dragon fruit farming in South Africa,

he, along with his parents, started cultivating dragon fruit on half an acre of land. Now, he is growing the fruit on 1.5 acres and plans to expand the production.

“I worked as an electrical engineer in South Africa from January 2018 to November 2021. Apart from doing my job, I spent my time gathering knowledge about farming. In December 2018, when I came to India for a break, I brought some stems of this cactus plant for

a trial. We started farming on a trial basis in 2019. After the trial was successful, I quit my job in November 2021 and started working as farmer,” said Rana.

Four plants are grown on a single pole and each pole on an average gives 10 kg production in second year and 26 kg in the third year. Rates of this fruit range from Rs 150 to Rs 350 per kg as per season. It is a summer crop that gives fruit from May to December, he added.

# Burn notice: Punjab logs 22 farm fires in four days

HT Correspondents

letterscd@hindustantimes.com

**PATIALA/LUDHIANA:** Punjab has reported 22 paddy stubble burning incidents in the last four days, according to a report by the Punjab Remote Sensing Centre (PRSC), which started recording farm fires from September 15 — marking the beginning of the crop residue burning season which is among the principal contributors to an annual pollution crisis in the national capital and its surrounding areas.

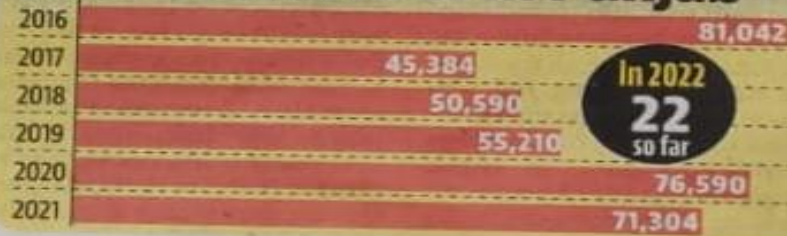
According to report by PRSC, an autonomous organisation under the Punjab government, of the 22 incidents, 21 were reported in the Majha region of the state (16 in Amritsar and five in Tarn Taran), where early varieties of paddy are sown, and one fire was registered in Mohall.

Government officials aware of the matter said that three farmers in the Amritsar district have been fined, while a "red entry" has been made in the land record of another farmer.

"Harvesting of early sown varieties has started. Some farmers who grow vegetables have burnt the paddy straw to clear their fields. The Punjab Pollution Control Board (PPCB) has developed a mobile application to share farm fires data with every block and village-level official in the state," a



## Kharif farm fires in Punjab



spokesperson for PPCB said.

Most farmers burn the residue because it is a quick and cheap way to clear the fields for the sowing of rabi season wheat crop, for which the window is often very short. The result is that Delhi and its surrounding areas report hazardous levels of air pollution.

The Punjab government has



**AIR WE BREATHE**

deputed around 10,000 officials and employees in the state to monitor stubble burning. PPCB chairman Adarshpal Vig said the data on paddy straw burning has been shared with the district officials concerned.

Last week, the Centre turned down the state government's proposal of contributing to the cash incentive

to farmers for not burning stubble. The state government had proposed to give ₹2,500 per acre to paddy growers. It suggested that the Centre pay ₹1,500 per acre while ₹1,000 per acre will be borne by Punjab and Delhi governments.

However, following the Centre's rejection of their proposal, the two state governments also dropped the plan to pay the cash incentive.

"How can we pay when the Centre is not giving?" Punjab agriculture minister Kuldeep Singh Dhaliwal said last Thursday in response to a question on the cash incentive scheme.

To be sure, Punjab is facing severe financial stress, and has directed its senior officials to cut wasteful expenditure.

Sukhdev Singh Kokri, general secretary of Bhartiya Kisan Union (Ekta-Ugrahan), said, "We don't encourage stubble burning, but we will oppose the government if it registers cases against farmers. We are against any action against the farmers, who are already facing distress because of rising inputs costs."

Meanwhile, under an alternative plan, Delhi and Punjab have joined hands to use Pusa bio-decomposer — a microbial solution that can decompose paddy straw in 15 to 20 days — on 5,000 acres of land in the agrarian state to prevent stubble burning, which is a major cause of air pollution.

# Paddy yield in 6 Punjab dists to go down by 10%

RAVI DHALIWAL  
TRIBUNE NEWS SERVICE

**GURDASPUR/PATHANKOT, SEPT 18**  
The paddy yield in at least six districts of Punjab is likely to see a 10-15 per cent drop with a Chinese virus, commonly known as the dwarf disease, infecting the crop, resulting in its stunted growth.

Experts claim the virus' origin has been traced to Wuhan in China, where the SARS-CoV-2 virus that causes Covid-19 is said to have originated.

## GIRDAWARI ORDERED

Pathankot, Gurdaspur, Mohali, Hoshiarpur, Patiala and Ludhiana districts are worst hit by the Chinese virus whose origin is traced to Wuhan in China, where Covid-19 originated; girdawari ordered

While about one-fifth of the total area under paddy in Pathankot has been affected, the impact is comparatively less in the neighbouring

CONTINUED ON PAGE 9

# Paddy yield in six Punjab dists to go down...

FROM PAGE 1

Gurdaspur district. The other districts where the impact is being seen are Mohali, Hoshiarpur, Patiala and Ludhiana. Dr Amrik Singh, Chief Agriculture Officer, Pathankot, said some plants had died while some were witnessing a stunted growth. The technical name of the virus was southern rice black-

streaked dwarf virus.

He said, "There is no remedy available as yet. The claim that early sowing is behind the stunted growth does not hold much water. Paddy was sown in Punjab from June 10-30, while in Himachal, it was sown in May. There is no report of any disease affecting the crop

in the hill state. This virus first originated in 2001 in Wuhan." On how the virus travelled from China, Dr Singh reasoned, "The long distance transmission of the virus happens due to strong convection winds. Such types of winds transport heat and moisture usually from a warmer area to

a cooler one. The other reason is environmental changes."

WhAU experts are still trying to decode the virus, but farmers are starting to panic as the disease is set to affect the yield. The state government has, meanwhile, ordered girdawari to know the extent of damage.

## Paddy purchase scam

Noose tightens around big sharks in Punjab

At long last, the noose is tightening around politicians, arhtiyas (commission agents), foodgrain procurement agency and mandi officials who are behind the multi-crore paddy procurement scam in Punjab. In swift developments, some senior officials have been brought under the ambit of the investigation. Now, the arrest of a key arhtiya by the Vigilance Bureau brings it closer to netting the big fish, former Food and Supplies Minister Bharat Bhushan Ashu. He finds himself in a tight corner and would be hard put to explain how under his watch in the last four seasons, rice procurement by government agencies was much more than paddy production in the state.

Even as the paddy procurement process in the rice-producing states of the country has been rocked by scams worth thousands of crores over the past few decades, little headway has been made in bringing the sharks to book. Be it Punjab, Haryana, Bihar, Madhya Pradesh or Telangana, the politician-official-arhtiya nexus has a mafia-like grip on the corrupt goings-on. In the bargain, it is not just the toiling farmer who gets short shrift. The state exchequer and the public distribution system (PDS) also suffer due to the irregularities involving lakhs of tonnes of the grain. The modus operandi, for example in Punjab, that enables the looters to pocket a neat Rs 600-700 per quintal entails buying rice at a cheaper price from UP that is meant for PDS there, illegally transporting it to Punjab and selling it to the government as the MSP is much higher in this state. They then cook the books with fake entries and transport bills.

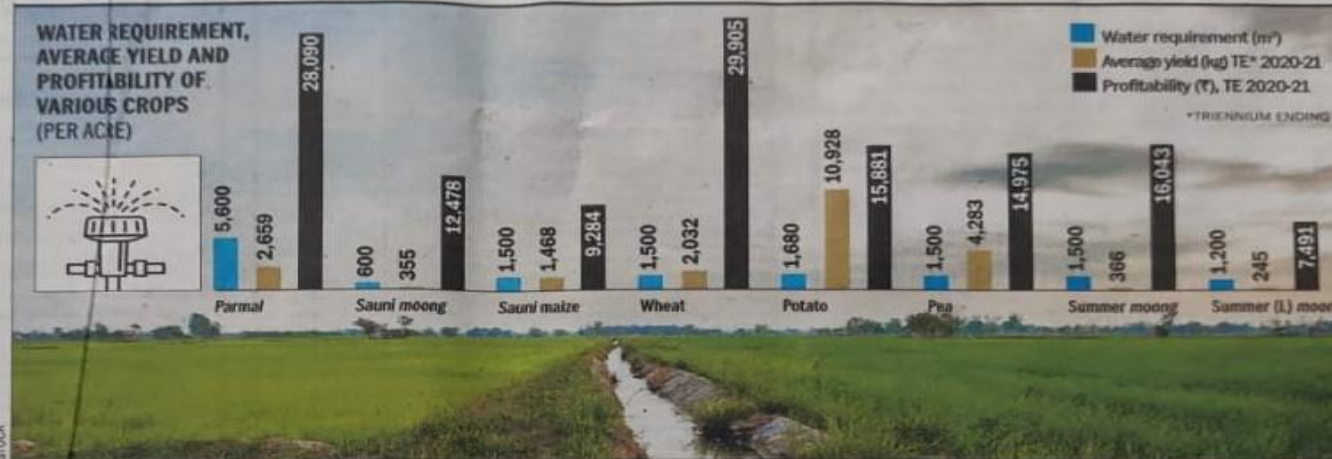
With wheat purchases plagued by the same malady, these scams have a direct bearing on our food security. The focus on influential offenders in Punjab comes with the hope of a cleansing of the system. Incidentally, the farmers find it too difficult to navigate the e-NAM portal designed by the Centre to make the process transparent by routing food procurement through it. It must be simplified so that its goal of promoting uniformity in agriculture marketing by streamlining procedures across the integrated markets is fulfilled.

# Assured marketing of *moong* holds promise

BALDEV SINGH DHILLON  
AND RAJ KUMAR

PUNJAB has made tremendous progress in agriculture since the mid-1960s as a result of technological developments and the government's policies aimed at achieving national food security; the paddy-wheat cropping system has emerged as the predominant one. This has created challenges, of which the depletion of underground water resources is the most serious one. This is mainly due to the expansion of paddy cultivation, a water-guzzling crop, from 2.27 lakh hectares (ha) in 1960-61 to 31.45 lakh ha in 2021-22. There is an urgent need to diversify the cropping system by replacing some area under paddy with less water-requiring crops, besides promoting water conservation measures. The Punjab Government recently announced policy measures in this direction, including assured procurement of *moong* at the minimum support price (MSP). Besides having less water requirement than *parmal*, *moong* has large domestic demand. Also, *moong* cultivation can fix atmospheric nitrogen and thereby improve soil fertility.

*Moong* is traditionally cultivated during the *sauni* (kharif) season (sown during the second fortnight of July). The crop matures in about 72 days. With the development of short-duration varieties, namely PAU G65 and Pusa Baisakhi (which mature in about 65 days), *moong* cultivation started during the summer season (sown from March 20 to April 10) in the 1970s. With time, its sowing period got extended and as per PAU, late sowing [designated as summer (L)] can be done up to the third week of April, though some



SOURCE: STATISTICAL ABSTRACT OF PUNJAB, DEPARTMENT OF AGRICULTURE & FARMERS' WELFARE, PUNJAB; DEPARTMENT OF AGRONOMY, PAU; AND THE AUTHORS' CALCULATIONS.

NOTE: WATER REQUIREMENT (5,600 M<sup>3</sup>/ACRE) IS OF PADDY PR121, THE MOST POPULAR VARIETY. PR126 AND PUSA44, OTHER POPULAR VARIETIES NEED 5,000 AND 6,400 M<sup>3</sup>/ACRE OF WATER, RESPECTIVELY. THE PROFITABILITY IS, HOWEVER, CALCULATED USING THE AVERAGE YIELD OF PARMAL IN PUNJAB.

farmers sow it after harvesting wheat. The improved varieties now available for summer-sowing mature in 61-62 days. As a result of the government's decision, the area under *moong* is expected to increase in all these seasons. Further, it will promote summer and summer (L) *moong* cultivation involving three-crop rotations.

The main aim of this initiative is to replace some area under *parmal* with *moong*. *Moong* may also replace some area under other kharif crops such as maize, *arhar*, mash and groundnut, which (except maize) have too small an area to deserve any consideration. This initiative is not going to have any effect on cotton cultivation as the crop pays more than *sauni moong*. Also, summer/summer (L) *moong* cannot be raised before cotton-sowing.

The water requirement was com-

puted considering the number of irrigations and the depth of irrigation. In practice, however, irrigation water application is greatly affected by the time, distribution and amount of rainfall. Paddy has distinctly higher water requirement than other crops. *Sauni moong* has the lowest requirement.

As expected, both water requirement and profitability are distinctly higher in the case of cropping systems involving *parmal*, and of three-crop rotations compared to two-crop rotations. Further, it is evident that:

- (1) None of the non-*parmal* cropping systems, even three-crop ones, have profitability higher than the most common *parmal*-wheat rotation.
- (2) The profitability of *parmal*-wheat is Rs 57,995/acre. Next best non-*parmal* cropping systems are those involving summer (L)

*moong* [*sauni moong*-wheat-summer (L) *moong*, Rs 49,873/acre; and maize-wheat-summer (L) *moong*, Rs 46,680/acre].

(3) Though two summer (L) *moong*-based cropping systems [*sauni moong*-wheat-summer (L) *moong* and maize-wheat-summer (L) *moong*] seem most profitable as per present considerations, these may not become popular because summer (L) *moong* is prone to losses in yield and quality due to pest attacks during flowering, high temperature and early pre-monsoon/monsoon showers. In comparison, summer *moong* gives a more stable performance. Further, the cropping systems involving *sauni moong* have lower water requirement as well as higher profitability than those based on maize, indicating that on both accounts *sauni moong* should be preferred over maize.

But *moong* continues to grow vegetatively when there is excessive rain and thereby, maturity is delayed and yield is adversely affected, and if there is scanty rainfall, there is severe incidence of insect-pests (thrip). In comparison, maize is a stable crop.

(4) The initiative will expand the area under summer/summer (L) *moong* crops, and may boost potato and pea cultivation. Potato seed produced in Punjab is known to be of good quality and is preferred in other states in the country. Frozen pea is an important vegetable within and outside the country.

Farmers may be tempted to give more importance to profitability than water-saving. Thus, they may adopt three-crop rotations involving *parmal* rather than other crops. This will lead to substantially higher water requirement (1,200-1,680m<sup>3</sup>/acre considering

PR121) over that of *parmal*-wheat. Thus, ensuring MSP for *moong* may lead to higher water demand rather than water-saving. However, the farmers may bring more area under short-duration varieties. In case PR121 and Pusa 44 are replaced by PR 126 (the short-duration variety available at present), even then, water requirement will be higher by 6,00-1,080 m<sup>3</sup>/acre than that of *parmal*-wheat.

The analysis shows that ensuring MSP will expand summer and summer (L) *moong* cultivation, but *sauni moong* may not replace area under paddy. The area under summer/summer (L) *moong* increased from 54,500 acres during 2020-21 to 1,29,100 acres during 2021-22 and production rose from 21,300 tonnes to 65,000 tonnes during this period. However, there is no decrease in area under paddy. Apparently, to enable *sauni moong* to replace *parmal*, besides enhancing MSP, its yield potential needs to be enhanced. To do so, the route of extending the crop duration, which is generally positively correlated with grain yield, may be explored.

It needs to be driven home that the initiative of procuring *moong* produce at MSP has been taken to save water. This can be achieved only by adopting non-*parmal* rotations, which will also result in savings on electricity consumption. The government may consider linking the provision of MSP to the produce of summer/summer (L) *moong* crop with the replacement of *parmal* cultivation by *sauni moong* or some other kharif crop, such as maize, to meet the challenge of an impending water crisis in the next 20 years or so.

BS Dhillon is former VC and Raj Kumar is Principal Extension Scientist (Agri Economics), PAU

# Climate-proof farms to tackle food insecurity

In 1947, India was a food-deficient country, and food security was one of the main concerns of politicians and policymakers. However, from an era of severe food shortage and dependence on the United States, India has transformed itself into a self-sufficient country in food grains, has a sizable public distribution system and is a significant agricultural exporter. Notwithstanding the success, food security is likely to be a critical challenge in the coming decades as the climate crisis impacts agriculture severely. As a developing country with a large and growing population primarily dependent on small-scale agriculture or informal activities, low agricultural productivity, and a highly weather-dependent agricultural system, India is vulnerable to the impacts of the climate crisis. Moreover, undernutrition continues to be a big challenge as nearly 16.3% of the population is undernourished, and about 32.1% of children below five are underweight.

The decline in this year's wheat output due to the heatwave in March (and similar fears of a dip in rice output) should ring alarm bells because such extreme weather conditions will become more frequent. The climate crisis has caused significant changes in the inter-annual and intra-seasonal variability of monsoon rainfall, and India's water resources are strained. Several studies indicate wheat and rice are sensitive to the climate crisis. According to a study by AS Daloz and others, wheat yield losses due to the climate crisis will be between 4% and 36% in Punjab, Haryana, Uttar Pradesh, and Bihar. Water shortage and thermal stress are also likely to significantly impact rice productivity.

The climate crisis will also affect access to food and absorption of food. Given that agriculture continues to employ the bulk of the population, adverse impacts on agriculture will affect farm incomes and the ability of farmers and farm-dependent persons to access food. Landless labourers dependent on farm wages will be the worst affected. The climate crisis will also affect urban India's food security. Again, the urban poor, who live in informal settlements, will be worst affected. Populous cities are highly vulnerable to the climate crisis. The poor, who live in informal settlements in low-lying areas, will experience frequent flooding and loss of livelihood and income. Since the poor spend the bulk of their

earnings on food, loss of income due to extreme events will negatively affect nutrition.

The climate crisis will also affect food utilisation in two ways — loss of nutrients in food and adverse impacts on human health. Rising carbon dioxide levels will reduce zinc, iron, and protein levels in crucial crops such as wheat, rice, soybeans, maize, and peas. Decreased iron levels in food will be detrimental to female and child nutrition as more than half of India's female population is already anaemic.

Studies also indicate that the climate crisis will increase the incidence of diarrhoea in children, and more people will be exposed to vector-borne diseases such as malaria, chikungunya, and dengue. The higher incidence of these diseases will affect food utilisation through a

reduction in appetite and reduced ability of the body to absorb nutrients.

Substantial efforts must be made to climate-proof agriculture. Most farmers are poor, debt-ridden, and lack access to technology and finance. Agriculture is also going through a silent crisis, and rural unrest is high. As a result, the adaptive capacity of farmers is low. Thus, the government needs to increase public spending on agriculture adaptation measures. Public investment in agricultural research, irrigation, extension services, and climate-smart agricultural practices should be increased. Given that the climate crisis will adversely affect the ability of the poor to access food through income losses, livelihood security provided by safety nets such as the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) will become even more critical. In addition to the welfare-enhancing measures of the scheme, it is time to exploit the adaptation opportunities that MGNREGS presents. All projects under MGNREGS must contribute to improvement in agricultural productivity and create productive assets in rural India.

Food self-sufficiency has been India's greatest achievement, which must be celebrated. But India urgently needs to wake up to the significant challenges that climate change poses to its long-term food security and adopt urgent measures.



Malancha Chakrabarty

*Malancha Chakrabarty is senior fellow and deputy director (research), Centre for New Economic Diplomacy, Observer Research Foundation. The views expressed are personal*



Biological Agri Solutions Association of India

# Change in climate, LSD cases dip in Kangra

RAJIV MAHAJAN

NURPUR, SEPTEMBER 18

Areas in lower Kangra district bordering Punjab, that saw a sudden spurt in the lumpy skin disease (LSD) infection among animals last month, has been witnessing a decline in such cases for the last 10 days, owing to the change in climate.

Most of the LSD cases have been reported from Indora, Nurpur, Jawali and Dehra in the district. The spike in the cases had sounded the alarm bell to the Animal Husbandry Department. A large number of milch animals died because of the disease, causing financial losses to animal rearers across the district. The delay in procuring vaccination doses, poor knowledge about combating the disease, shortage of veterinary doctors, pharmacists and antibiotics were the major causes that led to the failure in containing the disease among domestic and abandoned animals.

Suresh Pathania, president, Kangra district Bharatiya Kisan Union, said the lackadaisical approach of the state government and its machinery had resulted in



A cow being vaccinated in Dharamsala. PHOTO: KAMALJEET

## 1,229 DEATHS SO FAR

- The Animal Husbandry Department recorded 27,781 LSD cases (mostly in cows) and 1,229 deaths till Saturday in the dist.
- The department has also been recording a decline in daily reported LSD cases for the past over a week

## 24,000 VAX SHOTS ADMINISTERED

“The department has so far administered 24,000 vaccination doses in the district and recorded a decline in LSD infections due to fall in temperature and awareness of animal rearers. Sanjiv Dhiman, DY DIRECTOR, ANIMAL HUSBANDRY DEPT, DHARAMSALA

the widespread LSD infection that caused financial losses to rearers in the district. He had asked the Union

Government to declare the LSD as an epidemic, paving the way for disbursement of calamity compensation to the

aggrieved livestock owners.

Meanwhile, the Animal Husbandry Department recorded 27,781 LSD cases (mostly in cows) and 1,229 deaths till Saturday in the district. The department has also been recording a decline in daily reported LSD cases for the past over a week.

Sanjiv Dhiman, Deputy Director of the department, Dharamsala, said veterinary experts were active in sensitising animal rearers about the precautions to be taken. He said the department had organised a workshop at Fatehpur on Saturday in which around 1,400 LSD infections and 65 deaths had been reported by the department.

“The department has so far administered 24,000 vaccination doses to the non-infected animals in the district and recorded a decline in the LSD infections due to fall in temperature and awareness of animal rearers who are now well-versed about combating the disease,” he said.

He said the department had reported the highest 1,300 LSD infections in a day during its peak which had declined to 650 on Saturday which indicated containment of the disease.