QUICKLY

Pulses rule steady

Indore, December 27

Barring moong and masur, the majority of pulses and pulse seeds in Indore mandis ruled stable. Moong (bold) rose to ₹7,300-7,800 a quintal, while moong (medium) was quoted at ₹6,500-6,800. Moong dal (medium) ruled at ₹8,450-8,550, moong dal (bold) at ₹8,650-8,750, while moong moongar was quoted at ₹8,900-9,000. Urad (bold) quoted at ₹7,800-8,000, while urad (medium) ruled at ₹5,500-6,000. OUR CORRESPONDENT

Mixed trend in sugar market

Mumbai, December 27

Sugar prices at Vashi increased by ₹5-10 for bold quality while remained steady for fair quality. On Thursday,19-20 mills sold 38,000-40,000 bags at ₹3,110-3,220 a quintal of S-grade and ₹3,200-3,400 of M-grade. The Bombay Sugar Merchants Association spot rates : S-grade ₹3,252-3,375 and M-grade ₹3,362-3,592. *Naka* delivery rates: S-grade ₹3,255-3,305 and M-grade ₹3,275-3,475. OUR CORRESPONDENT

Spot rubber ends neutral

Kottayam, December 27

Spot rubber finished neutral on Friday. RSS 4 continued to rule unchanged at ₹131 a kg according to traders and the Rubber Board. The same was quoted steady at ₹127by dealers. RSS 3 (spot) declined to ₹112.96 (113.79)at Bangkok. January futures improved to ₹114.66 (113.80), February to ₹115.89 (115.03) and March to ₹119.02 (118.22) on the Tokyo Commodity Exchange. Spot rubber rates (₹/kg): RSS-4: 131 (131); RSS-5: 126.50 (126.50); ISNR 20: 113.50 (113.50) and Latex (60% drc): 85 (85.50). OUR CORRESPONDENT

Global trends

Gold	Silver	Copper
$1,515.00 per ounce	$17.92 per ounce	$6,215.00 per tonne
2.30 ▲	0.17 ▼	

Brent crude	Crude palm oil
$67.98 per barrel	$744.55 per tonne
0.61 ▲	17.61 ▲

Rabi sowing covers 572 lakh ha

OUR BUREAU

New Delhi, December 27

Increase in planting of crops, especially wheat, gram and jowar, has helped rabi acreage to go up by 6.6 per cent to 572 lakh hectares (lh) this week over the corresponding week last year. The total planted area under winter crop the same week last year was 536 lh, according to rabi sowing data released by the Agriculture Ministry on Friday.

There was an almost 10 per cent increase in area under wheat till this week to 297 lh over same period in the previous rabi season. Much of this increase was reported from Madhya Pradesh, Rajasthan and Gujarat, the States that received substantially higher monsoon rainfall. The other traditional wheat-growing States such as Uttar Pradesh, Punjab and Haryana, on other hand, reported either the same level as last year or less area under wheat so far.

Among pulses crops, planting of gram has been 5 lh (or 5.64 per cent) more than the corresponding week last year. Impressive increase in sowing of gram in Rajasthan (42 per cent higher than last year) and Maharashtra (46 per cent) took total area under gram to 95 lh till this week. Total area under pulses crop as of now is 140 lh as against 137 lh in the corresponding week last year. This is despite subdued pulses sowing in Madhya Pradesh and Karnataka, two other major pulses States.

Cereals acreage

There is a spurt in jowar sowing too. Better soil moisture level in jowar-growing areas in both Maharashtra and Karnataka, which account for most of jowar crop in the country, has helped increase the area by 17 per cent to 26 lh till this week. Two other major coarse cereals crops, which registered an improvement in acreage over the same period last year, were maize and barley.

The positive trend pushed up the total coarse cereals area by close to 11 per cent to 46.66 lh. Planting of oilseeds too made a recovery this week. The total area under oilseeds till this week is 74 lh, nearly 1 per cent less than the area till the corresponding week last year.

This is despite a slight drop in mustard/rapeseed area in Uttar Pradesh and Madhya Pradesh. A corresponding increase in mustard sowing in Rajasthan more or less made up for the shortfall in other States.

Rice sowing

Winter rice acreage has increased to 13.9 lh, about 16.5 per cent more than same week last year, because of Tamil Nadu, where rice planting increased by 18 per cent to close to 9 lh.

Water storage in major reservoirs in the country is more than comfortable.

Water levels

According to the Central Water Commission, which monitors water storage levels in 120 major reservoirs in the country, cumulative storage in these water bodies is 91.34 billion cubic metres, nearly 50 per cent more than the storage in the corresponding week last year.

Buoyant numbers *Acreage under Rabi crops as on Dec 27, 2019 (in lakh hectares)*

	2018-19	2019-20	% difference
Wheat	**270.75**	**297.02**	**9.70**
Rice	**11.93**	**13.9**	**16.51**
Pulses	**136.83**	**140.13**	**2.41**
Gram	89.89	94.96	5.64
Lentil	15.9	15.18	-4.53
Fieldpea	8.81	9.08	3.06
Urad	5.83	5.7	-2.23
Moong	3.06	2.55	-16.67
Coarse cereals	**42.12**	**46.66**	**10.78**
Jowar	22.42	26.22	16.95
Maize	12.09	12.43	2.81
Barley	7.03	7.46	6.12
Oilseeds	**74.72**	**74.12**	**-0.80**
Rapeseed & Mustard	66.4	65.68	-1.08
Groundnut	3.3	3.56	7.88
Total*	**536.35**	**571.84**	**6.62**

*Including others

Shetkari Sanghatana on warpath, set to supply HTBT cotton seeds again

RAHUL WADKE

Mumbai, December 27

Shetkari Sanghatana, a union of farmers, will usher in the new year by breaking the law. On January 5, the union members will meet at a farm near Yavatmal city and freely distribute the illegally harvested second-generation Herbicide Tolerant BT (HTBT) cotton seeds.

Illegal planting of HTBT seeds is an offence under the Environment Protection Act and the Seeds Act. The union has been spearheading a movement for faster approval of HTBT cotton seeds. In May, the union broke the law and freely distributed the seeds.

Rampant cultivation

The process of illegal distribution and sale of genetically modified cotton seeds has been happening for the last three years. In late 2017, the Union Ministry of Science and Technology set up a field inspection and scientific evaluation committee to investigate illegal cultivation. It found extensive use of HTBT seeds by farmers.

The State government had also instituted a police investigation and a few cases were filed against the farmers, but the cases were not pursued. Chief of Shetkari Sanghatana's (SS) Technology Cell Ajit Narde told *BusinessLine* that the SS does not have the exact statistics about the area planted with HTBT cotton.

A Central government survey said it could be 15 per cent of the total cotton planted area. In the forthcoming cotton year (commencing in May) the area could increase. It will also depend on the seed production of illegal cotton breeders, who are mostly based in Gujarat, he said.

Cotton acreage

A project report prepared by All India Coordinated Research Project on Cotton under Indian Council of Agriculture Research has said that the total area under cotton cultivation in 2018-19 was 41.19 lakh hectares.

Narde said the cotton season (2018-19) has come to end and the second-generation seeds, which almost has the same traits as the first generation HTBT are with the farmers. These seeds will be distributed again to other farmers to pressurise the Centre to legalise HTBT, he said.

Narde said that for the last 10 years the approval of HTBT seeds has been stalled for various reasons. Planting of HTBT cotton seeds has not adversely affected the environment, he added.

HTBT advantage

Weed is a major problem in cotton fields and there is a shortage of labour for manually removing the weeds in Maharashtra. Since HTBT seed is herbicide-tolerant, farmers can spray herbicides, which kill the weeds and not the cotton plants. SS studies have found one-acre manual removal of weeds cost ₹10,000 while herbicide spray costs ₹1,000, he said. Shetkari Sanghatana was founded in 1979 by former civil servant Sharad Joshi.

Global sugar traders hold tight as India set to roil markets

BLOOMBERG

December 27

India may roil the global sugar market again as prospects for next year's cane crop have brightened due to brimming reservoirs.

Bountiful monsoon rains this year have led to above average water levels in reservoirs, which will in turn boost the amount of sugar cane that is planted, according to industry and Indian government officials. Sugar output in the country is expected to bounce back in 2020-21 from an estimated three-year low this year, they said.

"The only thing that can stop cane plantings in India is the hand of God," said Rahil Shaikh, managing director of trading company Meir Commodities India Pvt Ltd. "Other than that, cane will be the king and will be ruling the country for a long time."

Bumper crops from India, which vies with Brazil as the world's top producer, have been blamed for causing a global sugar glut, leading to two years of more than 20 per cent declines in world sugar prices. While the market recovered in 2019, partly on crop setbacks in India, sentiment may worsen again if the country returns to record output.

Major producers, angered by Indian export subsidies, have complained to the World Trade Organisation in a bid to get the country to hold back shipments. The WTO is unlikely to be able to resolve the issue quickly, and India is likely to export significant amounts again, Rabobank said.

The Maharashtra factor

Since water availability is higher in reservoirs, it is expected that many farmers in Maharashtra will come back to sugar cane, said Abinash Verma, director general of the Indian Sugar Mills Association.

India's 120 main reservoirs held about 140 billion cubic metres of water as of December 19, 48 per cent more from a year earlier and about 38 per cent higher than the 10-year average, according to government data. It is a boon to the cane crop, which is being planted now, and will help boost the acreage in major producing regions of the country.

The acreage in Maharashtra will be higher than the 843,000 hectares (2.1 million acres) in 2019-20 as better soil moisture and availability of water have been encouraging farmers to plant more sugar cane, said Shekhar Gaikwad, Sugar Commissioner in the State, which is the second-biggest grower in India.

"Barring any weather catastrophe, the country will be a net exporter," said Gurdev Gill, vice-president for agriculture trading at Marex Spectron in London.

Members and supporters of Shetkari Sanghatana have been demanding withdrawal of the ban on GM crops for a long time now (file photo).
ARUNANGSU ROY CHOWDHURY

Farmers training: Many programmes, different numbers

AJ VINAYAK

Mangaluru, December 27

The number of farmers trained by the government has increased significantly in at least one programme, if the figures given in the Lok Sabha are any indication.

In a recent reply to a question, Narendra Singh Tomar, Union Minister of Agriculture and Farmer Welfare, said training was given to 5.11 lakh farmers under the National Food Security Mission (NFSM) in this fiscal year till December 3, 2019 as against 3.42 lakh for the whole of 2018-19. This amounts to a growth of 49.48 per cent over the full financial year of 2018-19.

He said the NFSM is being implemented in identified districts of 28 States and two Union Territories (UTs) of Ladakh and Jammu and Kashmir to increase the production and productivity of rice, wheat, pulses, coarse cereals and nutri cereals (millets) through area expansion and productivity enhancement.

The ebb and flow

Farmers trained	2018-19	2019-20*
ATMA scheme	19.18 lakh	7.73 lakh
KVKs	15.75 lakh	–
FMTTIs	9,905	5,723
NFSM	3.42 lakh	5.11 lakh
MIDH	1.91 lakh	1,942

Source: LS answer; *till December 3

However, the numbers related to farmers training give a different picture in the case of the Mission for Integrated Development of Horticulture (MIDH).

The Minister said 1,942 farmers have been trained in MIDH in this fiscal year till December 3, 2019 as against 1.91 lakh for whole of 2018-19. MIDH, which is a Centrally-sponsored scheme, is being implemented for holistic growth of the horticulture sector, covering fruits, vegetables, root and tuber crops, mushrooms, spices, flowers, aromatic plants, coconut, cashew, cocoa and bamboo. All States and UTs are covered under MIDH. Another Centrally-sponsored scheme on 'Support to State Extension Programmes for Extension Reforms', which is popularly known as Agriculture Technology Management Agency (ATMA) scheme, is under implementation in 684 districts and five UTs. According to the Minister, 7.73 lakh farmers were trained under ATMA till December 3 of 2019-20 as against 19.18 lakh for whole of 2018-19.

ATMA scheme promotes decentralised extension system with the objective of supporting State governments' efforts to revitalise the extension system and making available the latest agricultural technologies and good agricultural practices in different thematic areas of agriculture and allied areas to farmers. The extension activities under ATMA include farmers' training, demonstrations, exposure visits, kisan melas, mobilisation of farmers groups, and organising farm schools, etc.

The Minister said that 15.75 lakh farmers were trained in various thematic areas by Krishi Vijnan Kendras (KVKs) during 2018-19. It did not give figures for the current financial year.

As many as 716 KVKs of Indian Council of Agricultural Research (ICAR) have mandate of technology assessment, demonstration and capacity development of farmers. KVKs are imparting training to farmers for getting higher agricultural production and income.

Four Farm Machinery Training and Testing Institutes (FMTTIs) in the country have trained 5723 candidates till December 3 of 2019-20 as against 9905 for the whole of 2018-19.

These FMTTIs—which are located at Budni in Madhya Pradesh, Hissar in Haryana, Ananthapur in Andhra Pradesh, and Biswanath Chariali in Assam – are engaged in imparting training to various categories of trainees, including farmers, in the field of farm mechanisation.

Onion Retail Price Tracker

Compiled by **Annapurani V**

Dec 27, 2019 ₹/ kg

5 cities where onion prices are the highest

Itanagar Arunachal Pradesh	150
Port Blair Andaman and Nicobar	140
Mayabunder Andaman	140
Agartala Tripura	125
Kolkata West Bengal	120

5 cities where onion prices are the lowest

Gwalior Madhya Pradesh	48
Jhansi Uttar Pradesh	55
Sagar Madhya Pradesh	55
Bilaspur Chhattisgarh	60
Nashik Maharashtra	65

Source: Department of Consumer Affairs

India gearing up to host 2022 World Dairy Summit

RUTAM VORA

Ahmedabad, December 27

India is working on developing a smart backyard dairying model near Delhi to showcase it to the world at the World Dairy Summit, which the country will host in 2022.

The annual flagship Summit of International Dairy Federation (IDF) is a platform for dairy stakeholders, including farmers, processors, researchers, and marketers, to exchange knowledge and ideas and experiments on better dairying practices.

The government has involved National Dairy Development Board (NDDB), the apex dairy development body in the country, besides private players, cooperatives and Indian Dairy Association (IDA) as its stakeholders. An organising committee has been formed with all the stakeholders as part of it. It is about four decades since India hosted a global dairy summit.

"We are working to set up a village to exhibit our smart dairying practices. It is not just to showcase, but also to develop a sustainable dairy model for the future. A model village will be set up around Delhi in Haryana. India has been regularly participating in the annual summit in other countries. In 2022, we will be the host country," said NDDB Chairman Dilip Rath, who is also part of IDF India National Committee.

The one-week event, usually taking place around September-October, will have about 5,000 participants, 50 per cent of which will be from abroad. The Summit will have technical sessions, farmer sessions, exhibitions, farm visits, social events besides business engagements.

NDDB Chairman Dilip Rath

In 2019, the event was held in Istanbul, Turkey. The next is planned in September-October 2020 at Cape Town, South Africa. Purto Rico will host in 2021, followed by India in 2022, and China in 2023.

Why maize is a golden grain for the farming community

BY INVITATION

BHAGIRATH CHOUDHARY
SAIN DASS
GOVIND GUJAR

Maize, the queen of cereals, is an indispensable part of the India's agricultural sector. It possesses multiple beneficial traits both in terms of ecology and economy. In terms of ecology, it consumes less water, is a C4 and day-neutral plant and gives higher yield in a shorter duration of time. It can, therefore, be grown in all seasons, three times a year, with the highest per day productivity.

In terms of economy, maize is grown on over 10 million hectares across all States, contributing 27 million tonnes to the total agricultural output. While engaging at least 15 million farmers, maize production provides millions of person-days of employment in both the industrial and agricultural sectors. A significant portion of production is consumed as raw material for animal feed, poultry and starch industry, and thereby it holds tremendous economic value.

Major producers

In the last two decades, the introduction of high-yielding, single-cross maize hybrids coupled with best agronomic practices, has proved to be a revolutionary step. Not only has the country become the hub for hybrid maize seed production, but it has also leapfrogged in commercial cultivation of maize.

Farmers produce high-quality single-cross hybrid seeds in the rabi season in the designated areas of Andhra Pradesh, Karnataka and Maharashtra. The top five maize producing States, each growing the crop on over 1 million hectares include Karnataka, Maharashtra, Rajasthan, Madhya Pradesh and former Andhra Pradesh.

Correspondingly, the total commercial cultivation spans kharif, rabi and spring seasons. Of all the seasons of maize production, rabi presents a higher yield level of more than 4 tonnes per hectare while the kharif productivity stands at 2 tonnes per hectare. Surprisingly, 70 per cent of the total maize production occurs during the kharif season; therefore, the average national maize productivity is around 3.1 tonnes per hectare. However, there are maize clusters in AP and Bihar which have recorded yields of up to 11 tonnes per hectare. For instance, the Tenali region of Guntur district in Andhra Pradesh reports an average maize yield of 10 tonnes per hectare.

The big question in the Indian maize production system is to harness the highest potential of the crop. For example, cultivating maize in two or three crop rotations can help farmers earn more than rice or wheat cultivation. This is an area of great potential as the economy moves towards doubling the farmer's income by 2022 and achieving production of 50-60 million tonnes of maize by 2030.

3M cropping system

Besides the potential for boosting income, cultivating maize also helps farmers in protecting the declining soil quality. Moreover, maize can be cultivated in all the different agro-ecological zones as it exhibits compatibility with a wide range of soils and climate conditions. In terms of agricultural inputs, it helps save up to 90 per cent of water and 70 per cent of power compared to rice.

Spring cultivation of maize in Punjab or diversification of rice to maize during kharif in Punjab and Haryana can ameliorate the danger of a depleting watertable and underground reservoirs. The recent initiative by the Haryana government is a classic example of replacing rice with maize cultivation in the kharif season.

ISTOCK/VENTURECX

Also, the maize-mustard-mungbean (3M) cropping system is a troika of solutions for the replacement of water-intensive rice-wheat cropping system in North India. Large-scale adoption of the maize-mustard-mungbean cropping system can also help the country overcome the shortage of pulses and edible oil.

Imminent opportunity

The fall armyworm (FAW), a new pest of maize that invaded India in 2018, posed a significant challenge particularly to maize farmers across India in the last two seasons. FAW spreads at a fast pace throughout the country, proving its dominance within a year of reaching the Indian subcontinent.

The silver lining to the grey cloud of FAW is the excellent opportunity the infestation offered to maize farmers to reap bountiful of income due to increased maize prices. Prices spiked from ₹1,500 a quintal in mid-2018 to ₹2,300 in mid-2019. The high domestic market price of maize allowed farmers to invest in a practical solution for control of voracious FAW, which was a success.

The kharif 2019 season is a testament to farmers' ingenuity and hard work to monitor and control the voracious FAW, which translated to a high level of productivity and production. Although some farmers suffered severe losses, overall, Indian farmers were able to overcome the menace.

FAW infestation highlighted the paramount significance of farmers' education and awareness in taking proactive measures. As the Central government quickly approved the package of practices (POP) for effective management of fall armyworm, the Central Insecticides Board & Registration Committee (CIB&RC) also extended ad hoc label claims of some of the useful chemicals, such as *chlorantraniliprole, spinetoram* and others for management of FAW.

Mandatory seed treatment of maize seeds was another step in the right direction.

In sum, maize is very important not only as food but as feed for the poultry and cattle, and for the starch industry. The country has the potential to increase maize production to meet the growing demand for both domestic and neighbouring countries.

The writers are from South Asia Biotechnology Centre (SABC), New Delhi