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CURRENT AFFAIRS

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PAU'S NEW WHEAT VARIETY PBW RS1

This article covers "Daily Current Affairs" and the topic details "PAU's New Wheat Variety PBW RS1". The topic "PAU's New Wheat Variety PBW RS1" has relevance in the "Science and Technology" section of the UPSC CSE exam.

For Prelims:

What is PAU's New Wheat Variety PBW RS1? What are its features, challenges? What is the Glycemic Index?

For Mains:

GS: Role of Biotechnology in improving food security

Why in the news?

According to a report in The Indian Express, The Punjab Agricultural University (PAU) has developed a new wheat variety to keep blood sugar, obesity in check.

PAU's New Wheat Variety PBW RS1

- The Punjab Agricultural University (PAU) has developed a new wheat variety called PBW RS1, which is aimed at addressing health concerns related to blood sugar levels and obesity.
- This variety contains high levels of amylose starch and resistant starch, known for their ability to slow down the release of glucose into the bloodstream. By releasing glucose slowly, PBW RS1 helps in maintaining stable blood sugar levels and increasing satiety.

Benefits of PBW RS1

PBW RS1 offers several benefits in terms of health and nutrition. Here are some of its advantages:

Reduced Glycemic Index

- Chapatis and biscuits made from PBW RS1 have a lower glycemic index compared to those made from regular wheat varieties.
- The decreased digestibility of the starch in PBW RS1 contributes to this lower glycemic index.
- A lower glycemic index is associated with a decreased risk of diet-related diseases, including obesity and type 2 diabetes.

Feeling of fullness and Weight Management

- Consuming PBW RS1-based chapatis provides a greater feeling of fullness compared to regular wheat chapatis.
- This increased satiety can contribute to weight management and portion control.

Nutritional Content

- PBW RS1 has a comparable total starch content to other wheat varieties, ranging from 66-70 percent.

- However, its significant advantage lies in its **higher resistant starch content of 30.3 percent**, compared to 7.5-10 percent in other varieties.
- The **non-resistant starch content in PBW RS1 is also lower**, at 37.1 percent compared to 56-62 percent in other varieties.
- Additionally, **PBW RS1 contains 56.63 percent amylose, which is significantly higher** than the 21-22 percent found in other varieties.
- These nutritional properties make PBW RS1 a **healthier choice for individuals concerned about their carbohydrate intake.**

Disease Resistance

- Apart from its nutritional attributes, PBW RS1 exhibits resistance to fungal diseases. It is completely resistant to yellow rust and moderately resistant to brown rust.
- This disease resistance can contribute to improved crop yield and reduce the need for chemical treatments.

Challenge of Lower Productivity in Cultivating PBW RS1

- The average grain yield of PBW RS1, recorded at PAU's field trials, is 43.18 quintals per hectare.
- This is slightly below the average yield of 48 quintals per hectare in Punjab, which can reach up to 52 quintals or more in certain years..

What is the Glycemic Index?

- **The glycemic index (GI) is a metric that indicates the speed at which a particular food increases blood sugar levels.**
- Foods with a high GI are swiftly digested and absorbed, leading to a rapid surge in blood sugar.
 - On the other hand, foods with a low GI are processed and absorbed more gradually, resulting in a gradual elevation of blood sugar levels.
- The GI of a food is measured on a scale of 0 to 100, with pure glucose having a GI of 100.
 - Foods with a GI of 55 or less are considered to have a low GI.
 - Foods with a GI of 70 or more are considered to have a high GI.
- The GI of a food can be affected by a number of factors, including the type of carbohydrate, the amount of fibre, and the way the food is cooked.
- People with diabetes or other conditions that affect blood sugar levels may benefit from eating foods with a low GI.

Some examples of foods with a low GI:

- Beans
- Lentils
- Whole grains
- Fruits
- Vegetables

Some examples of foods with a high GI:

- White bread
- White rice
- Potatoes
- Pasta
- Soda

Conclusion

In conclusion, the development of PBW RS1 by the Punjab Agricultural University represents a significant breakthrough in wheat breeding. Its high amylose starch and resistant starch content offer various health

benefits, including stable blood sugar levels and increased satiety. Although PBW RS1 presents challenges in terms of productivity, efforts are being made to promote its cultivation and position it as a special quality wheat variety. The availability of PBW RS1 seeds to farmers and its potential impact on improving nutritional security are eagerly awaited.

Sources:

Punjab Agricultural University develops new wheat variety to keep blood sugar, obesity in check – The Indian Express

Q1. With reference the New Wheat Variety PBW RS1 recently seen in news, consider the following statements:

1. The Wheat Variety PBW RS1 is developed by the Indian Council of Agriculture Research along with Dr. Panjabrao Deshmukh Krishi Vidyapeeth.
2. It boasts low glycemic index along with reduced starch content.
3. This is particularly helpful for individuals concerned about their protein intake.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Answer: (b)

Q2. Consider the following statements with reference to the Glycemic Index?

1. The Glycemic Index is a measure of how much insulin is released in response to eating a food.
2. Diabetic persons or people with other conditions that affect blood sugar levels may benefit from eating low GI foods.
3. Potatoes, Pasta, Bread are examples of high GI foods.

How many of the abovementioned statement/s is/are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) None

Answer: (b)

Q3. Discuss the role of biotechnology in ensuring food security in India, highlighting its potential benefits, challenges, and ethical considerations along with examples.

Gaurav Nikumbh

GRAMODYOG VIKAS YOJANA (GVY)

This article covers "Daily Current Affairs" and the topic details "Gramodyog Vikas Yojana (GVY)". The topic "Gramodyog Vikas Yojana (GVY)" has relevance in the Rural Development section of the UPSC CSE exam.

For Prelims:

About Gramodyog Vikas Yojana (GVY)?

For Mains:

GS 3: Rural Development

Components of GVY?

Significance of Village Industries in the Indian Economy?

Challenges for Village Industries in the Indian Economy?

Why in the news?

The Lieutenant Governor of Delhi, Shri Vinai Kumar Saxena, distributed Honey Bee-Boxes and Toolkits to beneficiaries. The program was organized under the 'Gramodyog Vikas Yojna' of Khadi and Village Industries Commission (KVIC), Ministry of Micro, Small and Medium Enterprises, State Office Delhi, Government of India.

About Gramodyog Vikas Yojana (GVY):

Gramodyog Vikas Yojana (GVY) is a component of the Khadi Gramodyog Vikas Yojana, which is a Central Sector Scheme launched in March 2020. GVY aims to promote and develop village industries through various means, including common facilities, technological modernization, and training. It is implemented by the Khadi and Village Industries Commission (KVIC) under the Ministry of MSMEs.

Objectives of GVY:

- Promote and develop village industries through common facilities and technological modernization.
- Provide training and capacity building to artisans and staff.
- Support research and development for product innovation.
- Enhance marketing and publicity of village industry products.

Included Activities:

- GVY covers various industries under its ambit, including:
- Agro-Based & Food Processing Industry (ABFPI)
- Mineral-Based Industry (MBI)
- Wellness & Cosmetics Industry (WCI)
- Handmade Paper, Leather & Plastic Industry (HPLPI)
- Rural Engineering & New Technology Industry (RENTI)
- Service Industry

Components of GVY:

- **R&D and Product Innovation:** Support for research and development activities, product diversification, and design development.
- **Capacity Building:** Training and skill development of staff and artisans through Master Development Training Centers (MDTCs) and institutions of excellence.
- **Marketing & Publicity:** Assistance in marketing village industry products through the preparation of catalogs, industry directories, market research, and organizing exhibitions and buyer-seller meetings.

Significance of Village Industries in the Indian Economy:

- **Employment Generation:** Village industries are labor-intensive and provide employment opportunities, reducing unemployment and underemployment in rural areas.
- **Rural Development:** Village industries contribute to the overall development of rural areas by creating local economic activities, reducing migration, and preventing population concentration in urban areas.
- **Poverty Alleviation:** These industries generate income for rural communities, providing livelihood options and empowering individuals to improve their socio-economic conditions.

- **Utilization of Local Resources:** Village industries utilize local resources and raw materials, promoting sustainable development and preserving local heritage and culture.
- **Export Potential:** Many village industries produce traditional crafts and products with high demand in domestic and international markets, contributing to foreign exchange earnings and global trade competitiveness

Challenges:

- **Lack of Infrastructure:** Many rural areas lack adequate infrastructure, including transportation, power supply, and access to markets. Insufficient infrastructure hinders the growth and competitiveness of village industries.
- **Limited Access to Finance:** Limited access to credit and financial resources restricts their ability to invest in modern technology, machinery, and raw materials.
- **Skill Gap:** Limited access to training and skill development opportunities hampers the growth of these industries.
- **Marketing and Market Linkages:** They face difficulties in reaching domestic and international markets, understanding market trends, and competing with larger-scale industries.
- **Technological Upgradation:** The lack of awareness, limited resources, and technical expertise hinder the adoption of modern technologies.

Other Initiatives for Village Industries Development:

- Deen Dayal Upadhyay Grameen Kaushalya Yojana
- Pradhan Mantri Kaushal Vikas Yojana
- National Rural Livelihood Mission

SOURCE:

<https://pib.gov.in/PressReleasePage.aspx?PRID=1937485>

Q.1 Which of the following is a component of the Khadi Gramodyog Vikas Yojana?

- Rural Engineering & New Technology Industry (RENTI)
- National Rural Livelihood Mission
- Pradhan Mantri Kaushal Vikas Yojana
- Deen Dayal Upadhyay Grameen Kaushalya Yojana

Answer: (a)

Q.2 Which ministry is responsible for the implementation of the Gramodyog Vikas Yojana (GVY) to promote and develop village industries?

- Ministry of Rural Development
- Ministry of Agriculture and Farmers Welfare
- Ministry of Micro, Small and Medium Enterprises
- Ministry of Commerce and Industry

Answer: (c)

Q.3 Discuss the significance of village industries in the socio-economic development of rural areas in India. Examine their role in employment generation, poverty alleviation, and sustainable utilization of local resources.

Rishabh