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**Soybean is one of the rich and cheapest source of protein and is the staple food of the people and animals of different parts of the world**

*Misha Khalid*

*Opinion on page 03*

## OPINION

### Moringa Plants Known As Miracle Plant

*M. Majid Islam*

The Moringa plants get a central stem from which several smaller branches sprout. The bark is grayish-brown in texture and glossy.

In our surroundings, there are many god gifted plants, but due to illiteracy, we cannot cultivate them. One of them is a plant named Moringa, which has been present in Sindh and Punjab for centuries. Moringa is cultivated worldwide for commercial purposes. Moringa plants grow quickly and can achieve lengths of up to 10 metres within a year.

Because of the high nutritional content of its leaves, stems, roots, and seeds, it is known as a magical plant all over the world. Its extraordinary benefits were explored when it was used to meet the needs of meals during the Senegalese famine.

### Soybean: Nutritional Powerhouse And Sustainable Alternative To Meat

*MISBAH CHAUDHRY*

Soybean (Glycine max L.), a nutritional powerhouse, is a self-pollinated plant that belongs to the family Fabaceae, and the Glycine genus is an environmentally friendly legume crop. Soybean can grow in a wide range of latitudes, from 50 N to 35 S.

This adaptability is caused by natural variations in many genes controlling flowering time and maturity. Globally, it is a major source of seed protein and oil, which provide sources of starch, dietary fiber, lipids, essential minerals, and phytochemicals for human nutrition as well as for livestock feed.

Soybean the nutritional powerhouse, has become an important commodity due to its high demand not only for food and feed consumption but also because it can potentially serve as a future fuel feedstock, biodegradable plastics, industrial applications, pharmaceutical applications, as well as in the production of biodiesel.

### Treatment And Management Of Diabetes Mellitus

*Wafa Majeed*

Diabetes is a global public health issue that is common because of ageing, physical inactivity, obesity, sedentary lifestyles, and bad eating habits. Diabetes mellitus is a group of metabolic disorders with a high glucose range.

Diabetes is divided into two major groups: insulin-resistant type II diabetes (T2D) and insulin-deficient type I diabetes (TID). A disturbance in glucose and lipid homeostasis leads to diabetes.


# Pakistani Students Receive MEXT Research Scholarships From Japan

Young scholarship recipients heard from Pakistani graduates of Japanese universities about their knowledge of and experiences with studying and living in Japan at the start of the event.

For the academic year 2023–2025, the Government of Japan has awarded 11 Pakistani students MEXT (Ministry of Education, Culture, Sports, Science, and Technology of Japan) Research Scholarships for Master and Doctorate degrees with the goal of giving them the chance to further their studies at renowned Japanese universities in their respective fields.

A pre-departure orientation was held here in Islamabad on Friday for the scholarship recipients by the Japanese Embassy. The young scholarship recipients heard from Pakistani graduates of Japanese universities about their knowledge of and experiences with studying and living in Japan at the start of the event.

ITO Takeshi, Chargé d'Affaires at the Japanese Embassy in Pakistan, hosted a reception at the ambassador's home to honour the MEXT Alumni Association of Pakistan (MAAP) members and bid the new scholarship recipients farewell at the program's conclusion.

Speaking at the reception, Mr. ITO offered his congratulations to the new scholarship recipients on being chosen for the prestigious MEXT research scholarships and gave them advice to pursue their studies in Japan with the utmost dedication.

One of the eleven Japanese Ministries that make up the executive branch of the government of Japan is the Ministry of Education, Culture, Sports, Science and Technology, or MEXT, also known as Monkash. Its objective is to advance Japan's advancement in relation to the global community.

The ministry is in charge of providing funding for research that falls under its purview, some of which include: children's health in relation to the home environment; delta-sigma modulations using graphs; gender equality in sciences; neutrino detection, which aids in the study of supernovas around the world; and other general research for the future.

Japan was able to develop economically despite having limited resources and become a global leader in manufacturing thanks to the cutting-edge knowledge and technology that were fostered by its top-notch educational system.

Japan has introduced numerous products to the world, including electric cars, digital cameras...***Read More***

# NAEAC Team Reviews Facilities Of Degree Programs At UVAS

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The Higher Education Commission (HEC) team from the National Agriculture Education Accreditation Council (NAEAC) visited UVAS' Ravi Campus Pattoki. BS (Hons) Poultry Science, BS (Hons) Fisheries Aquaculture, and BS (Hons) Dairy Technology were among the three degree programmes whose facilities the committee members examined as part of a pre-accreditation visit.

University of Agriculture Faisalabad, Women University, Swabi (retired), Prof. Dr. Abdul Rab, and Prof. (Ret.) Dr. Ahsan-ul-Haq of the University of Agriculture in Faisalabad, Dr. Abdul Ghaffar, Secretary of the NAEAC, and Mr. Abdullah, IT Coordinator of the NAEAC.

They were given a briefing on the various teaching and lab facilities available at Ravi Campus by Dean Faculty of Animal Production Technology Prof. Dr. Saima and Principal Officer, Ravi Campus Dr. Arshad Javid. Later, the chairs of each department provided the (NAEAC) team with an overview of their departments' activities and the NAEAC standards they adhere to.

The committee visited a number of departments on the Ravi Campus, including the zoological museum, the Central Laboratory Complex, the hostels, the sports complex, and other research and training facilities for poultry, dairy fish farms, milk fish processing plants, and poultry.

The team also met privately with faculty, postgraduate students, and undergraduate students. The Committee praised UVAS accomplishments and the cutting-edge training and research facilities offered at the Ravi Campus for providing students with practical knowledge.

Following the meeting, members of the NAEAC team discussed the departments' strengths and necessary areas for improvement with Prof. Dr. Saima.

A memorandum of understanding was signed by Government Collage Woman University Sialkot and the University of Veterinary and Animal Sciences (UVAS) Lahore to improve academic research collaboration....***Read More***

# PU BoR Asked To Hand Over State Lands To Army For Corporate Farming

The General Headquarters Lands Directorate has requested that the Punjab BoR hand over 45,267 acres of state land to the Pakistan Army for corporate agriculture farming.

The General Headquarters Lands Directorate has requested that the Punjab Board of Revenue hand over 45,267 acres of state land to the Pakistan Army for corporate agriculture farming.

The Director General Strategic Projects, Pakistan Army, has requested the handover of state lands in three districts of Punjab, including Bhakkar, Khushab, and Sahiwal, in a letter addressed to the Member (Colonies), Board of Revenue, Punjab.

The letter referred to SOCs as per Punjab government notification number 197-2023/0334-CS.II(IX) dated February 20, 2023, and the JV Management Agreement as of March 8, 2023.

It further stated, "While signing the JV Management Agreement on March 8, 2023, it was decided that state lands immediately required for the project be handed over to the Pakistan Army."

The lands may be handed over for corporate agriculture farming as per details including; (a) 10,273 acres of Livestock department in Rakh Ghulaman Mouza of tehsil KallorKot in district Bhakkar on 17th March 2023; (b) 23,027 acres of Forest department in Rakh Gohar Wala of tehsil KallorKot in district Bhakkar on 18th March 2023; (c) 9,424 acres of Livestock department in Rakh Mahni of tehsil Mankera in district Bhakkar on 15th March 2023; (d) 981 acres of Livestock department in Chak 61 MB of tehsil Khushab in district Khushab on 17th March 2023;

(e) 837 acres of Agriculture department in Chak 5 MB of tehsil Quaidabad in district Khushab on 18th March 2023, and (f) 725 acres of provincial government in Chak 13/11L of tehsil Chichawatni in district Sahiwal on 15th March 2023.

The letter also stated that departments may keep portions based on their needs/research needs. However, research proposals along the following lines may be shared for better management: (a) project name, (b) project purpose, (c) land required for achievement of the goal, (d) funds required/funded by, and (e) time required to complete the project.

Military sources told media that the land in question is mostly barren, ancient, and uninhabited. The Punjab government will temporarily give it to the army in order to cultivate it through a joint venture....***Read More***

# Scientists Urged To Find Immediate Solution To Emerging Challenges

Experts have urged scientists to find immediate solutions to emerging challenges such as climate change and rising illnesses, or the situation will worsen in the coming years.

Experts have urged scientists to find immediate solutions to emerging challenges such as climate change and rising illnesses, or the situation will worsen in the coming years.

When they issued the warning, they were speaking at an international symposium on "Recent Developments in Life Sciences," hosted by the Department of Biochemistry at the University of Agriculture Faisalabad (UAF).

President of the Pakistan Academy of Sciences (PAS), Dr. Khalid Mehmood, presided over the inaugural session and stated that scientists should prioritise efforts to achieve health, nutrition, food security, and pollution-free environments. New diseases emerged over time, wreaking havoc on people's lives, he said, calling for stronger ties between academia and industry as collaboration and trust building were critical for development.

Dr. Asghar Bajwa, Dean of the Faculty of Sciences, stressed the importance of learning modern tools and techniques in order to compete with the rest of the world. He urged young scientists to come up with creative solutions to the challenges.

Prof. Dr. Khalil-ur-Rehman stated that the conference would pave the way for chemistry and biochemistry scientists to play more important roles in safer living and food security. Prof. Dr. Amer Jamil, Chairman of the Department of Biochemistry, stated that the conference aimed to provide a platform where they could provide solutions to emerging challenges.

He stated that all-out efforts were made in terms of training, research, and academia to increase people's capacity. Dr. Muhamamd Ali and Dr. NohJin Park from California also spoke at the event.

The University of Agriculture, Faisalabad was founded in 1906 as the Punjab Agricultural College and Research Institute, Lyallpur, and was later renamed the West Pakistan Agricultural University, Lyallpur in 1961 before becoming the University of Agriculture, Faisalabad in 1973. In the twenty-first century, UAF will push the boundaries of knowledge to develop unique interdisciplinary programmes of teaching...***Read More***

# UAE, PAK To Collab To Enhance Seismology, Meterology Capabilities

UAE and Pakistan's national weather bureaus will collaborate to enhance seismology and meterology capabilities, following the launch of technical cooperation programme.

UAE and Pakistan's national weather bureaus will collaborate to enhance seismology and meterology capabilities, following the launch of technical cooperation programme.

The UAE's National Centre of Meteorology (NCM) and the Pakistan Meteorological Department (PMD) will also work to improve seismic activity in the region, according to a statement issued by the NCM on Friday.

Cooperation will include marine meteorological services, hydrology and flood forecasting, seismology, and even scientific research to better monitor and understand seismic activity in the Arabian Sea and the Sea of Oman. Furthermore, the programme will involve the exchange of seismic data around the clock.

The agreement was signed on the sidelines of the WMO Regional Conference in the Regional Association II in Abu Dhabi by Dr. Abdullah Ahmed Al Mandoos, NCM director, and Mahr Sahibzad Khan, PMD director general and permanent representative of Pakistan with the World Meteorological Organization (WMO).

"The Technical Cooperation Programme will help the NCM and PMD better understand the potential dangers of seismic activity and tsunamis as part of our responsibility to monitor and assess seismic activity within the UAE.

Only by conducting cutting-edge research and encouraging collaborative efforts and knowledge transfers within the scientific community will we be able to develop systems and solutions that reduce the risk and damage caused by future seismic activity "According to Dr. Al Mandoos.

"We are thrilled to be working on this project with the NCM and its team. By strengthening our ties with the NCM, we are emphasising the importance of monitoring meterology capabilities and seismic activity, as well as integrating and analysing new data that could lead to future breakthroughs in these groundbreaking academic fields," "Khan stated.

The new programme aims to integrate weather and seismic activity data as well as develop special capabilities for tsunami model research. This should allow for faster and more accurate forecasts of tsunamis propagating through the Oman Sea, which may then affect Pakistan's coastal areas and the UAE's northeast.

The collaborative efforts will also improve technical cooperation and expertise exchange by providing advanced forecast modelling software to the Tsunami Early Warning Centre (TEWC) that is specifically designed ...***Read More***

# Global Education Expo Held For Students To Realize Dreams Into Reality


Prospective students met representatives from higher education institutions from around the world at the Global Education Expo.

TCL Global Pakistan held a Global Education Expo in conjunction with its relaunch in Pakistan to encourage and facilitate those aspiring to pursue higher education abroad from well-known universities, as well as to explore options for work visas post-study.

Prospective students met representatives from higher education institutions from around the world at the Global Education Expo. Stalls from various prestigious international universities were set up, providing Pakistani students with an excellent opportunity to receive free guidance and counselling for their future study endeavours.

Representatives from the British Council, Pearson, and education and career counsellors were also present to provide aspirants with a comprehensive guideline and presentation of opportunities.

In his keynote speech, the chief guest, Zafar Mehmood, Senior Vice President of the Lahore Chamber of Commerce and Industry, stated that it is critical for students to seek the best education they can regardless of financial concerns. A strong higher education ensures a creative, intelligent, and efficient workforce. According to TCL ...***Read More***

# FIPWASA Decides To Launch Strong Protest Movement Across Country

The central and provincial governments were urged to increase the budgets of the universities in their annual budgets in accordance with international standards.

The Federation of All Pakistan Universities Academic Staff Association (FAPUASA) Central held its annual meeting and elections at the Centre of Advanced Studies in Health & Technology in Rawalpindi. Professor Dr. Jameel Ahmed Chitrali, President of FAPUASA, presided over the meeting.

The meeting was attended by presidents and general secretaries of academic staff associations from across the country, including FAPUASA's vice president, Prof Dr. Kalimullah Barreech.

In the meeting along with the presidents of the provincial chapters, the central president of FAPUASA presented their annual performance report. The performance report was approved after several questions and suggestions. Elections were held in the second phase of the meeting for the central and provincial chapters of FAPUASA for the year 2023.

According to the results of the elections, Prof. Dr. Kaleemullah Barreech of the University of Balochistan is the central president of FAPUASA, while Prof. Dr. Akhtiar Ali Ghumro of Shah Abdul Latif University Khairpur Sindh is the central general secretary and Dr. Farrukh Arsalan Siddiqui of Bahauddin Zakaria University, Multan is the central vice president, while the University of Agriculture Peshawar Dr. Bashir Ahmed and Dr. Abdul Mubeen of the University of Engineering Taxila were elected members of the Central Executive Council. Prof. Farid Khan Achakzai the

President of the Balochistan Chapter, Prof. Nauman Kakar for the General Secretary, and Ms. Nilofar Jameel were elected members of the Executive Council. For Sindh Chapter Dr. Fahad Nazir Khoso, President, Dr. Baqir Ali Zardari General Secretary, and Dr. Kamran Zakaria member executive council were elected. For the Punjab Chapter, Prof. Dr. Muhammad Azhar Naeem was elected President, Prof. Dr. Rizwanullah General Secretary, and Dr. Muhammad Iqbal were elected members of the Executive Council. For Khyber Pakhtunkhwa Chapter, Dr. Feroze Shah was elected as President, Dr. Zafar Hayat Khan as General Secretary and Dr. Farman Khan as a member of the executive council.

The newly elected leadership expressed gratitude for the trust and confidence shown by FAPUASA Central members and pledged to work tirelessly for the betterment of Pakistan's academic staff community.

They also reaffirmed their commitment to upholding FAPUASA's values and principles and working towards the organization's goals. The departing leadership was thanked for their unwavering efforts and hard work during their tenure, and they were wished success in their future endeavours.

The members of the meeting discussed the financial and administrative problems of public universities across the country, particularly the University of Balochistan and BUTUMS, as well as the financial difficulties faced by Khyber Pakhtunkhwa universities, particularly Peshawar University, and budget issues of almost all Sindh universities. The central and provincial governments were urged to increase the budgets of the universities in their annual budgets in accordance with international standards.

FIPWASA has decided to launch a strong protest movement across the country....***Read More***

# EV Market In Pakistan Widely Attracts Chinese Companies

EV market in Pakistan is widely supported and attracting Chinese companies because it will lead to a greener and more environmentally friendly Pakistan according to experts.

Electric vehicle (EV) market in Pakistan is widely supported and attracting Chinese companies because it will lead to a greener and more environmentally friendly Pakistan according to experts.

They stated that developing EVs in Pakistan is a potential solution for the country in terms of both improving environmental quality and making full use of electricity. Prof. Zaffar told media that the transportation sector accounts for nearly 43 percent of total airborne emissions in the country.

Meanwhile, Pakistan has excess electricity generation capacity, resulting in a large accumulation of capacity payments. "Electric mobility has become essential for Pakistan," Prof. Nauman said. In such cases, non-seasonal and flexible loads must be introduced, and EVs have emerged as an effective solution.

A number of Chinese companies, including Chery, MG, Changan, BAIC, and Haval, have also made a push for EV transportation market in Pakistan in recent years. Many favourable factors, such as the Pakistani government's favourable attitude towards EV, have aided in the development of the country's EV policy.

Due to the limited capacity of local manufacturers to develop various modules/components of EVs, particularly batteries and battery cells, EV manufacturing in Pakistan will need to rely heavily on imports in the short term.

According to Prof. Nauman Zaffar, Director of the Energy and Power Systems Cluster and the National Incubation Centre, the battery in a BEV costs nearly half the price of the vehicle.

"The supply chain of materials used in the manufacturing of batteries for EVs is highly competitive, with China occupying a significant market share. This presents a valuable opportunity for Pakistani automakers to collaborate with their Chinese counterparts in the manufacturing of battery cells, which can help reduce the upfront purchase price of EVs.

An electric vehicle is a vehicle that uses one or more electric motors for propulsion. It can be powered by a collector system with electricity from extravehicular sources, or it can be powered autonomously by a battery (sometimes charged by solar panels, or by converting fuel to electricity using fuel cells or a generator).

# Minister Inaugurates PAEC's Diagnostic Center Narowal

Nuclear Medicine and Radiology departments have also been established at DCN to provide diagnostic services to the general public of the area.

The Minister for Planning, Development, and Special Initiatives inaugurated the Diagnostic Center Narowal (DCN) on Saturday, a satellite centre of the Pakistan Atomic Energy Commission (PAEC) that will provide the medical services to cancer patients in the districts and surrounding areas.

Because of the minister's keen interest and special efforts, the PC-I of Diagnostic Center Narowal as Phase-II of Gujranwala Institute of Nuclear Medicine was approved in 2017, and PAEC currently operates 19 cancer hospitals in the country, serving the medical needs of more than 70% of cancer patients.

The Nuclear Medicine and Radiology departments have also been established at DCN to provide diagnostic services to the general public of the area.

The centre is outfitted with cutting-edge medical technology such as a SPECT/CT Gamma Camera, Digital Radiography, Digital Mammography, Ultrasound, Immunoassay Lab, and Hot Lab. The DCN has been designed in such a way that it can meet the needs of Medical Oncology in the future.

Speaking on the occasion, the minister paid tribute to Pakistan Atomic Energy Commission scientists and engineers who have made the country's defence unconquerable. "We have witnessed the longest era of border peace thanks to PAEC scientists, who are now contributing in other spheres of national life such as health, nuclear power, and agriculture," he added.

According to minister, PAEC recently inaugurated two mega nuclear power plants with a combined capacity of 2,200 MW in Karachi, known as K-2 and K-3. PAEC agricultural scientists from four centres are providing the most recent crop varieties to help the country's agriculture sector.

Dr Raja Ali Raza Anwar, Chairman PAEC, thanked the minister for his continued support to all commission projects in particular and science and technology in general, and stated that PAEC has always prioritised the healthcare segment as part of its corporate social responsibility (CSR).

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In questions of science, the authority of a thousand is not worth the humble reasoning of a single individual.

*--Galileo Galilei*

*M. Majid Islam*

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# Moringa Plants Known As Miracle Plant

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Because of the high nutritional content of its leaves, stems, roots, and seeds, it is known as a magical plant all over the world. Its extraordinary benefits were explored when it was used to meet the needs of meals during the Senegalese famine.

There was a time when there were 13 species of it in Pakistan, but now only two of them remain, including Moringa oleifera, which has the most importance worldwide.

This tree shows the best performance in the areas where the temperature is 18 to 48 centigrade and the annual rainfall is 250 to 1500 mm per year. Taking into account its basic requirements, cultivation in the desert areas of Sindh and South Punjab can earn a lot of foreign exchange.

Prof. Dr. Shehzad Basra, who has been guiding people through the platform of "Moringa for Life" for a long time, is credited with researching its charming properties and raising public awareness about its cultivation in Pakistan.

According to his research, the original homeland of this plant is South Punjab, from where it reached other parts of the Indian subcontinent and South Africa.

The Moringa plants get a central stem from which several smaller branches sprout. The bark is greyish-brown in texture and glossy.

The leaves are complicated, with several leaflets on every leaf. The leaflets are slender, oval in shape, and brilliant green.

It flowers once a year, and the flowers later mature into pods. The pods of one tree can yield eight to ten thousand seeds, from which moringa can also be cultivated as a crop. The seed is planted at a distance of 1 foot, as in cotton and maize.

Nutritionists and food scientists around the globe marvel at its charismatic qualities. According to research, moringa has 17 times more calcium than milk, 9 times more protein than yoghurt, 4 times more vitamin A than carrots, 12 times more vitamin E than almonds, and 15 times more potassium than bananas.

The flowers are cooked as a vegetable; the beans are made into pickles and curries, while root pickles are popular in Pakistan.

A famous milk company in Japan has been making baby milk for a long time called Morinaga milk, which is rich in nutritional properties.

Fifty gram leaves are enough to meet the nutritional needs of the day.

A poor man who cannot afford expensive fruits and meat can easily meet his nutritional needs by consuming Moringa. When the plants reach three feet, they are cut from the top, and then the leaves can be used as fodder at intervals of 10 to 20 days.

By using moringa leaves as fodder for cattle, there is no need to use expensive seed cake. According to research, the use of moringa leaves, which are highly nutritious, increases the weight of cattle by 32% and milk production by 65%.

Moringa has extensive and diverse medicinal properties, making it a useful tree for both conventional and modern medicine. With its countless health properties, it is a promising component in the creation of newer medications and therapies.

It is an anti-inflammatory, antioxidant, anti-diabetic, anti-cancer, anti-ulcer, anti-bacterial, and antifungal remedy.

It treats cardiovascular disorders, boosts the immune system, promotes eye health, bone health, skin care, wound healing, and acts as a liver protector. Its drugs are now being consumed at higher levels in Pakistan.

Moringa begins to produce seeds with 40% oil content within two years of sowing. 1 kg of seeds yields 250 ml of edible oil of cooking oil grade.

Increasing moringa production in Pakistan can save hundreds of millions of rupees wasted on edible oil.

The Moringa plants benefit pharmaceutical firms, cosmetic companies, lubricant industries, oil factories, biodiesel plants, and many more industries across the world. Environmental contamination is a big issue that has been raised as a result of chemical pesticides.

Seeing as the juice of moringa leaves contains insect repellent characteristics, we may use it as a spray to protect the field from insects and pests.

Moringa plants can also be grown by farmers around their fields, as it has deep roots so it does not harm the fertility of the soil, but its leaves fall on the ground and increase the fertility.

Kitchen gardening of moringa is being done in western countries, and its various parts are used in daily food. Due to its charismatic properties, we can plant it in our homes, roadsides, and parks.

For large-scale cultivation of Moringa, the government has to introduce various projects and create awareness among the farmers so that, apart from agricultural development, a lot of foreign exchange can be earned.

*MISBAH CHAUDHRY*

***Soybean can be incorporated into existing spring as well as summer cropping patterns, i.e., rice-soybean-rice, cotton-soybean-cotton, wheat-soybean-wheat, wheat-sorghum/millet-fallow-soybean-wheat, Intercropping soybean with corn, maize, sorghum, cotton, or sugarcane is proposed to be potentially successful***

# Soybean: Nutritional Powerhouse And Sustainable Alternative To Meat

Soybean, a nutritional powerhouse, is a self-pollinated plant that belongs to the family Fabaceae, and the Glycine genus is an environmentally friendly legume crop.

Soybean (Glycine max L.), a nutritional powerhouse, is a self-pollinated plant that belongs to the family Fabaceae, and the Glycine genus is an environmentally friendly legume crop. Soybean can grow in a wide range of latitudes, from 50 N to 35 S.

This adaptability is caused by natural variations in many genes controlling flowering time and maturity. Globally, it is a major source of seed protein and oil, which provide sources of starch, dietary fiber, lipids, essential minerals, and phytochemicals for human nutrition as well as for livestock feed.

Soybean the nutritional powerhouse, has become an important commodity due to its high demand not only for food and feed consumption but also because it can potentially serve as a future fuel feedstock, biodegradable plastics, industrial applications, pharmaceutical applications, as well as in the production of biodiesel.

People also know soybean as a 'miracle bean', 'wonder bean', or "golden bean," and it is said it is a golden gift of nature to humanity for health and happiness. It is a cost-effective, rich source of protein that can replace dairy, egg, and meat proteins as consumers search for ever-increasing variations on diet staples.

The origin of soybean cultivation is China. China was the world's largest soybean exporter and producer during the first half of the 20th century. In the 1950s, soybean production developed rapidly in the USA, and now the USA is the leading producer with 35% (119.5 million metric Tons) of the global production (340.9 million metric tons) of soybean.

Brazil and Argentina are placed in second and third place, respectively. They are not only the largest producers but also the largest exporters. During the early 1960s, soybean was introduced in Pakistan as an oilseed crop, but its cultivation remained limited until the 1970s, when adaptability and production trials conducted all over the country yielded promising results.

Based on these trials, areas of KPK, Punjab, and Sindh were found most suitable for commercial cultivation of soybean. Pakistan disburses the lion's share of its foreign exchange to import edible oil and oilseed based feedstocks for fulfilling domestic needs.

Soybean as an oilseed crop has the potential to fill the gap between demand and domestic oilseed production in Pakistan.

Soybean cultivation improves soil health because of its ability to fix atmospheric nitrogen and its deep root system. It forms a mutual relationship with rhizobium bacteria in the root nodules.

They convert nitrogen to plant soluble form and in return get carbohydrates. Soybean fixes 50–60% of its nitrogen and 58% of its total nitrogen globally, with a near neutral balance on soil nitrogen.

Soybean can be incorporated into existing spring as well as summer cropping patterns, i.e., rice-soybean-rice, cotton-soybean-cotton, wheat-soybean-wheat, wheat-sorghum/millet-fallow-soybean-wheat, Intercropping soybean with corn, maize, sorghum, cotton, or sugarcane is proposed to be potentially successful.

In the rainfed (barani) areas, most of the lands remain fallow after wheat harvest until October or mid-November, which can be efficiently utilised for soybean production. In a mixed cropping system, we need to introduce it as a spring crop. This will not only improve the supply of feed industry products but also ameliorate the economic conditions and livelihood of farmers.

Soybean-wheat intercropping technology on a 10% cultivated area of wheat could reduce 15% of Pakistan's soybean import bill, cultivating a 20% area of maize could reduce 30% of the import bill. A total of 45% in one year.

Soybean, a nutritional powerhouse, contains twice as much protein as pulses, groundnuts, meat, and fish; three times as much as eggs; and more than ten times that of milk.

Soybean, being rich in protein and calories, has great potential to tackle the problem of protein-calorie malnutrition from which many people are suffering in developing countries. It also contains isoflavones and anti-nutritional factors such as trypsin inhibitors, urease, and flatulence factors. Hence, it requires careful processing before utilisation.

Soybean can be processed into a wide range of products. Mainly utilised as fermented (e.g., sauce, miso, natto) and non-fermented (e.g., oil, milk, tofu, flour) products.

Derivatives of soybean is gaining importance in nutritious foods and as sources of phytochemicals and nutraceuticals to reduce the risk of coronary heart disease, cancer, diabetes, etc. Calcium rich soy foods include, tofu, tempeh, textured vegetable protein (texturized soy protein), and soy milk.

Calcium in soy foods is readily absorbed by the body. Soymilk is used for breakfast by the people of China, Japan, Taiwan, and Thailand. It is lactose- and cholesterol free, highly digestible, and an alternative to a dairy- and meat-centred diet.

"By adding 3-4% sugar and 0.05% salt, it achieves a sugar, salt, and total solid level that is roughly equivalent to 2% fat cow's milk."

Tofu is an inexpensive substitute for cheese or paneer. Soy nuts are an excellent source of protein, fat, and isoflavones and are an alternate to peanuts, which are expensive and pose the problem of aflatoxins. Soybean oil has a high smoke point of about 230 degrees Celsius and is used for edible applications such as cooking, salad oil, dressing, margarine, mayonnaise, and confectionery cooking.

Soybean, another nutritional powerhouse, also contains heart healthy polyunsaturated fatty acids, which improve the elasticity of artery walls. Improve cognitive function and visual memory. Omega-3 fatty acids play an important role in foetal development, brain function, type-2 diabetes, and immunity.

One tablespoon of soybean oil contains 25 mcg of vitamin K, knocking out around 20% of the recommended daily value in a single serving. Vitamin K is helpful in regulating bone metabolism, blood clotting, and maintaining bone mass such as osteocalcin. Vitamin E protects against skin damage and treats skin conditions such as acne and atopic dermatitis.

"The US Food and Drug Administration has approved a health claim stating that 25g of soy protein in a daily diet low in saturated fat and cholesterol can help reduce total and low-density lipoprotein cholesterol by 3-4%."

People are becoming more health conscious, and the demand for nutritious foods is therefore increasing. Therefore, high quality research and development in the areas of soybean processing and utilisation are required. The following measures are suggested to accelerate soybean food use in the world:

- Create awareness among the masses about the economic, nutritional, and health benefits of soybeans and their products using print and electronic media.

- Train individuals, groups, and entrepreneurs in the manufacturing and marketing of soy-based food products and machinery.

- Make technical support available to potential entrepreneurs in the form of project reports, consultancy, and services.

Link research and industry to refine the product and modify technologies over time for greater efficiency and high-quality output.

Wafa Majeed

*WHO released the first and most accepted classification of diabetes, which was later modified in 1985. The expert committee from 1980 defined two main types of diabetes and named them Type 1 and Type 2, or insulin-dependent diabetes mellitus and non-insulin-dependent diabetes mellitus, respectively. But in 1985, the terms Type 1 and Type 2 were omitted, but the names IDDM and NIDDM were retained*


# Treatment And Management Of Diabetes Mellitus

Diabetes is a global public health issue that is common because of ageing, physical inactivity, obesity, sedentary lifestyles, and bad eating habits.

Diabetes mellitus is a group of metabolic disorders with a high glucose range. Diabetes is divided into two major groups: insulin-resistant type II diabetes (T2D) and insulin-deficient type I diabetes (TID). A disturbance in glucose and lipid homeostasis leads to diabetes. In this article, we will discuss the treatment and management of diabetes mellitus.

Diabetes can occur due to a number of factors that include the absence or decreased levels of insulin, impaired insulin functioning, inhibition of glucose absorption, upregulation of glucose transporters, increased uptake of glucose, an increase in the release of adiponectin, PPAR activation, glycogen metabolism, and increased levels of D-Chloroinositol. Diabetes is one of the fastest-growing public health problems, with several tragic health consequences.

Diabetes is a global public health issue that is common because of ageing, physical inactivity, obesity, sedentary lifestyles, and bad eating habits. Diabetes is becoming a more serious problem, owing to a variety of factors that include environmental and emotional changes.

About 537 million individuals (20–79 years old) are victimized, and one out of every ten people is diabetic. By 2030, this number is projected to rise to 643m, and by 2045, to 783m. In 2022, diabetes will be responsible for 6.7 million fatalities, or one every five seconds.

According to the National Diabetes Survey of Pakistan (NDSP) 2016–2017, diabetics account for 26.3% of Pakistanis. Diabetes affects about 27.4 million people in a country with a population of 207.77 million. In addition, 14.47 percent of people have pre-diabetes.

These beta cells secrete a hormone known as insulin. Insulin is a protein in nature that is synthesised there and secreted in feedback to various stimuli, for example, arginine, sulfonylurea, and blood glucose level, but among them, the blood glucose level is the main factor.

Diabetes mellitus is seen when these pancreatic cells are unable to perform their activities effectively and are not able to sustain insulin levels to prevent hyperglycemia. It may happen from a variety of factors, including both genetic and environmental factors.

Hyperglycemia is the most common clinical symptom of diabetes and the main cause of chronic disease complications. This is affected by two main mechanisms: the first is caused by autoimmune dysfunction and the destruction of pancreatic beta cells (type 1 DM), and the second is caused by an overstimulation of insulin synthesis and secretion in the presence of insulin resistance (IR), which is mostly associated with overweight or obesity (type 2 DM).

Types of Diabetes Mellitus:

WHO released the first and most accepted classification of diabetes, which was later modified in 1985. The expert committee from 1980 defined two main types of diabetes and named them Type 1 and Type 2, or insulin-dependent diabetes mellitus and non-insulin-dependent diabetes mellitus, respectively. But in 1985, the terms Type 1 and Type 2 were omitted, but the names IDDM and NIDDM were retained.

Type 1 DM:

Type 1 diabetes accounts for 10% of all diabetes cases. It is an immune-mediated or immune-associated destruction of pancreatic beta cells. Due to the destruction of pancreatic beta cells, there is a deficiency of insulin in the body, which results in hyperglycemia.

The onset of the disease usually occurs during childhood, but the symptoms can develop later on. Type 1 diabetes mellitus accounts for about 10% of the total cases of diabetes mellitus. It is further divided into two types, depending on the cause.

Type 1A accounts for about 70 to 80% of cases and is due to the autoimmune destruction of pancreatic beta cells, while type 1B is due to unknown causes. Type1diabetes is characterized by the presence of inflammatory infiltrate in the islets of pancreas. HLA and MHC genes are found to be associated with the susceptibility of the disease.

The cell-specific antibodies are present in the islet, and there are alterations seen in the CD4+ compartment of T cells.

Genetic susceptibility results in an ineffective immune barrier and immune response. This results in the start of an autoimmune response that activates T lymphocytes and macrophages.

The T lymphocytes then activate the CD4 receptor, which then activates INF gamma, causing the destruction of beta cells. On the other hand, macrophages (the antigen-presenting cells) activate TNF alpha and interleukin 1, which also cause beta cell destruction. If more than 90% of beta cells are destroyed, it results in type 1 diabetes mellitus.

Type 2 DM

Type 2 diabetes accounts for 90% of cases of diabetes mellitus. Insulin deficiency due to beta-cell dysfunction in the tissues results in insulin resistance and type 2 diabetes.

Obesity, a sedentary lifestyle, and an ageing population increase the risk of type 2 diabetes. Cardiovascular problems are often associated with type 2 diabetes, and they are the major cause of morbidity in patients with the disease. As a result, it is critical to maintain healthy lipid and blood pressure levels while also monitoring blood glucose levels.

In type 2 diabetes, there is no need to prevent ketoacidosis with insulin, as it is not an autoimmune disorder. The genes responsible for type 2 diabetes are not identified; it may be due to the heterogeneity of the genes. Under normal conditions, the blood glucose levels are kept within a narrow range, despite changes in supply and demand, by insulin secretion and the insulin sensitivity of the tissues.

In type 2 diabetes, these mechanisms fail, resulting in lower insulin levels due to beta-cell dysfunction and impaired insulin function due to insulin resistance in the tissues. GDM (gestational diabetes mellitus) is a category of diabetes seen particularly in pregnant women, detected in the 2nd or 3rd month period. It does not become clearly obvious that a woman has diabetes before gestation.

Some other types of diabetes are also seen because of some other reasons, such as MODY (maturity-onset diabetes in the young), neonatal diabetes, monogenic diabetes disorder, cystic fibrosis (exocrine pancreatic disease), and chemically induced diabetes (with steroid use, seen after organ transplant, due to drugs used in HIV/AIDS therapy).

Treatment and Management of Diabetes:

The treatment and management of diabetes mellitus include lifestyle changes (dietary modifications and physical exercise) and the use of drugs. Such as sulfonylureas, biguanides, glinides, alpha-glucosidase inhibitors, meglitinides, thiazolidines, incretin mimetics, dipeptidyl peptidase-IV inhibitors, and insulin as monotherapy or in combination.

Insulin, when used in the treatment of diabetes mellitus when there is a deficiency of insulin, can enhance plasma insulin levels and overpower insulin insensitivity. A difficult situation arises in the treatment of non-insulin-dependent diabetes mellitus in which blood glucose levels do not come to the required levels despite treatment with diet and oral hypoglycemic agents. ..***Read More***

Misha Khalid

*In addition to being one of the most commonly consumed cooking oils, it's also often used in many salad dressings and condiments as well. The soybean oil composition is made up mostly of unsaturated fat, with about 81 percent. Soybean oil is also used as mosquito repellent*

# Seed Of Soybean Plant: A Good Source Of Protein For Diabetics

Soybean is one of the rich and cheapest source of protein and is the staple food of the people and animals of different parts of the world.

Soybean is the species of legume native to east Asia widely grown for edible beans. Soybean is one of the rich and cheapest source of protein and is the staple food of the people and animals of different parts of the world. Seed of soybean plant contains 17% oil and 63% meal and 50% of which is protein and has no starch so it is the good source of protein for diabetics.

Soybean oil

Soybean oil is produced from the seed of soybean plant. Soybean oil contains unsaturated fatty acids which might help to lower cholesterol level. oil is rich in protein and healthy fat.

Soybean oil reduces LDL which clog in arteries due to refined oil and it may cause heart diseases so it will be helpful in lowering LDL.

Biochemically soybean has many unique phytochemicals including is flavones, sapiens phenolic acids. These play vital role in reducing cardiovascular diseases and cancer. soybean oil is a type of vegetable oil that is derived from the seeds of the soybean plant.

In addition to being one of the most commonly consumed cooking oils, it's also often used in many salad dressings and condiments as well. The soybean oil composition is made up mostly of unsaturated fat, with about 81 percent. Soybean oil is also used as mosquito repellent.

May help protect heart health

May lower blood pressure

May lower blood sugar

May improve fertility

May reduce menopause symptoms

May improve bone health

May reduce the risk of breast cancer

May reduce the risk of other types of cancer

SOYBEAN OIL CONSUMPTION IN PAKISTAN

According to research soybean oil consumption in 2020 is about 530 thousand metric tons. We should prefer soybean oil as it is more nutritional and beneficial then other commonly used oil.

Soybean oil processing steps

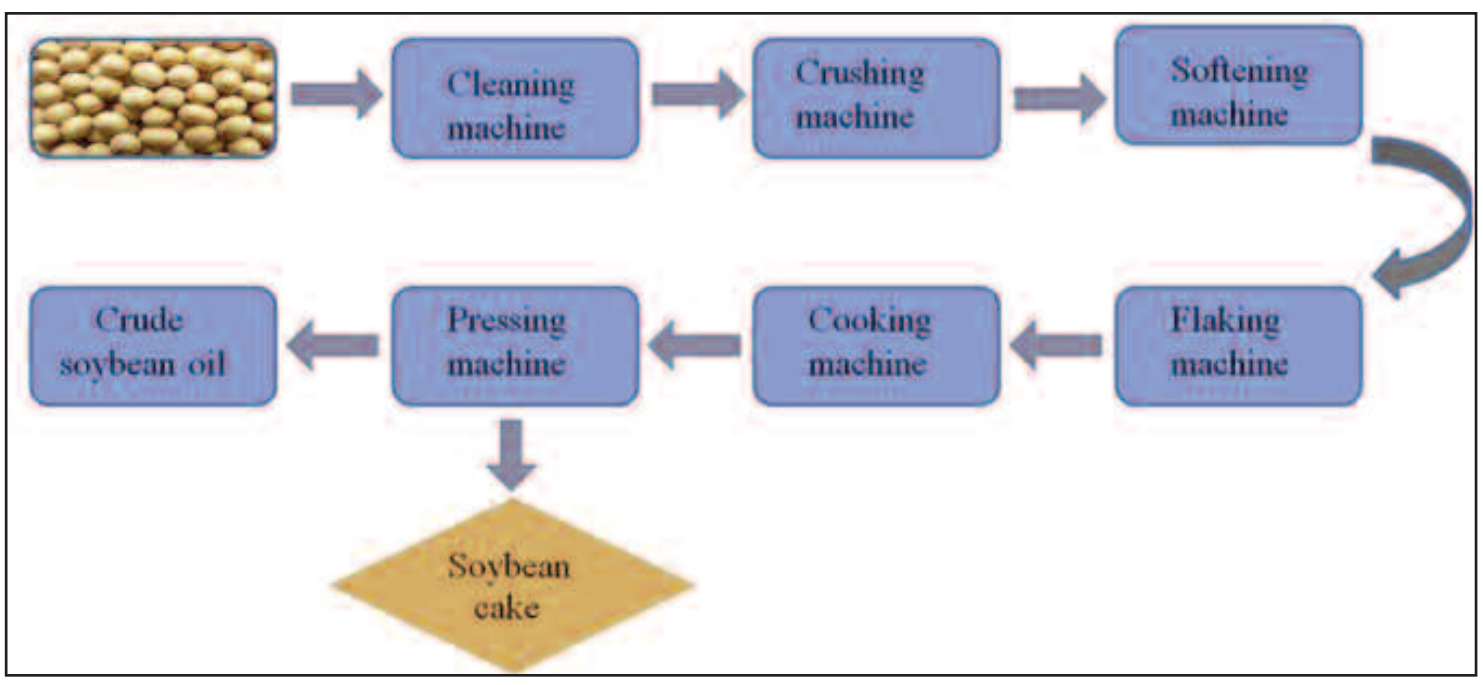
Soybean oil is manufactured in these ways.

Soybean oil processing steps

CONCLUSION

Soybean oil is thus useful for us. We should promote the production and usage of soybean. Although there are some health issues of soybean as it is allergic to some people. Farmers should cultivate it as it is very beneficial for soil fertility and good fodder for animals.

*Biochemically soybean has many unique phytochemicals including is flavones, sapiens phenolic acids. These play vital role in reducing cardiovascular diseases and cancer. soybean oil is a type of vegetable oil that is derived from the seeds of the soybean plant*



Abdullah Maan

*Soybean foods are popular throughout Asia, but they are especially popular in China, Japan, Korea, and possibly Indonesia. Because of China's long history, the Chinese have had a great influence on the use of soybean foods*

# Soybean Considers As Important Source Of Oil

Soybean is an important source of food, protein, and oil, and hence more research is essential to increase its yield under different conditions, including stress. The most important countries in the world with the highest rate of soybean production include the USA, Brazil, Argentina, China, and India.

Due to its major position as one of the more important crops, more research into soybean management can contribute to a better understanding of its production. With respect to the importance of soybean production worldwide, its production must be evaluated from different perspectives, including its symbiosis with soil microbes.

Many crop species, including soybeans, a major source of oil, are found associated with arbuscular mycorrhizal fungi and rhizobia. However, other beneficial rhizospheric microorganisms have also been tested, applied, and used as biofertilizers.

Microbial interactions may have important functions in soybean production and health. It is also important to evaluate the abiotic factors that interact with the growth and yield of this crop.

A better knowledge of the wide variation in abiotic and biotic parameters is important for understanding the ecology of the soybean system and for management purposes.

Evaluation of soybean production worldwide can improve our understanding of the effects of different factors affecting the growth and yield of soybeans globally. Enhancing soybean response to biotic and abiotic stresses. Soybean is among the most important leguminous plants and is a major source of food, protein, and oil, feeding a large number of people in the world.

It can develop a symbiotic association with its specific nitrogen-fixing bacterium, Bradyrhizobium japonicum, and acquire most of its essential nitrogen for growth and yield production. However, both the plant and the bacterium are subjected to different kinds of biotic and abiotic stresses, such as salinity, pathogens, drought, heavy metals, suboptimal root zone heat, and compaction.

Soybean, a major source of oil, and B. japonicum are not naturally tolerant to stress; however, it is possible to enhance their tolerance under stress using biotechnological and molecular methods and techniques.

Accordingly, to develop tolerant plant and bacterial species, their responses must be examined under stress, the related molecular and signalling pathways evaluated, and suitable methods and techniques to enhance soybean and rhizobium responses under stress determined.

Soybean Use as Food:

Soybean foods are popular throughout Asia, but they are especially popular in China, Japan, Korea, and possibly Indonesia. Because of China's long history, the Chinese have had a great influence on the use of soybean foods.

As a result, many soybean foods from different countries are similar, but the details of preparing and serving such foods may vary. Some soybean foods are still unique to one area or country. In Asia, all soybeans are classified as edible. To make the beans as palatable as possible, many methods of preparation have been devised.

Not only are soybeans cooked whole, but they are processed to make such products as soybean milk, soybean curd, soybean sprouts, soybean protein and oil film, soybean flour, soy sauce, bean paste, soybean cheese, tempeh, natto, and fermented black beans. Some of these products are flavoring agents, and others are staples.

Many soybean foods are simply prepared, while others are prepared by complex fermentation processes. However, all these foods are versatile and can be served in endless ways. Information for this study was gathered from many sources, and variations in the procedures for making and serving food frequently occur, even within the same country.

Therefore, only some of the relatively simple and fundamentally sound processes with significant variations and adaptations will be presented.

Soybean Products and Their Uses

The best-known and most widely used products from soybeans are soybean oil and soybean meal. Soybean oil is the most widely used edible oil in the world and soybean meal is the leading protein and energy source for animal feeds.

Soybean oil is used as cooking oil and as the base for shortening, margarine, salad dressings, and mayonnaise. Lecithin extracted from soy oil during the refining process performs as an emulsifying agent and, when further processed, is an important ingredient in confections, baked foods, dairy products, and instant foods. Lecithin is also used in animal feed, health and nutrition products, cosmetics, and industrial coatings.

A rapidly growing market for soybean oil is found in the manufacture of a variety of pharmaceuticals, such as vitamin E and other antioxidants, as inexpensive aids to good health.

Soybean oil is also used for industrial applications such as as a basic carrier in inks, varnishes, and paints. Many soaps, lubricants, and sealants contain soybean oil. Soybean oil shows great potential as an environmentally friendly substitute for petroleum-based diesel fuel, referred to as biodiesel.

Soybean meal is considered a premium product because of its high digestibility, high energy content, and consistency.

Over 80% of the soybean meal produced in the U.S. is dehulled. Properly processed dehulled soybean meal is an excellent source of protein and is used extensively in feed for swine, poultry, fish, beef and dairy cattle, and specialty animals, including pet food. Such feeds must be formulated to fit the exact nutritional requirements for each stage of the life cycle. Soybean meal is also used as the basis for a variety of soy protein products including soy flour, soy concentrate, soy isolates, and textured soy protein. Soy protein not only provides nutritional value and health benefits but also offers many functional properties, including emulsification, gelation, forming, and water holding capacity.

Soy flour is made from roasted soybeans that are ground into a fine powder containing 50 percent protein by weight. Soy flour comes in three forms: natural, or full fat; defatted; and lecithinated. Natural or full fat contains natural oils found in the soybean.

Defatted food has the oils removed during processing. Lecithinated foods have lecithin added. Soy flour is gluten-free, so yeast-raised breads made with soy flour are dense in texture. Soy grits are like soy flour except that the soybeans have been toasted and cracked into coarse pieces.

Soy protein concentrates are made by removing a portion of the carbohydrates from defatted and dehulled soy flakes. Concentrates are a highly digestible source of amino acids that retain most of the beans' dietary fiber. It must contain at least 65 percent protein.

Soy protein isolates are prepared through a process using water extraction and minimal heat on soy flakes. The product is nearly carbohydrate and fat-free, with no characteristic "beany" flavor. Soy protein isolates prepared this way are 90 percent protein by dry weight, possessing the greatest amount of protein of all soy products.

They are a highly digestible source of oil and amino acids that can be added to foods without compromising flavour characteristics. Isolated soy proteins are widely used as a nutritional...***Read More***

Manahil Noor

*These products are increasingly popular due to their health benefits Critical benefits of consuming tofu include its high protein level, which makes it a valuable food for vegetarians who may struggle to get enough protein from other sources; second, tofu is low in fat, unlike many different protein sources, making it a healthier option for those who are concerned about their fat intake; third, tofu is rich in nutrients, including iron, calcium, and magnesium*

# Soybean Cultivates For Its High Quality Protein Rich Seeds

Soybean, cultivated for its high quality protein rich seeds, is an important crop in the food and agriculture industries due to their versatility and numerous benefits.

Soybean (Glycine max) is a species of legume that is widely cultivated for its high-quality oil and protein rich seeds. It is native to East Asia and now is one of the most important crops in the world grown in countries across America, Europe, and different regions of Asia on a very large scale.

So why not Pakistan? My purpose in writing this article is to summarise the importance of soybean as a food product that can be utilised on a daily basis and as an industrial product in order to encourage the reader to pay attention to this valuable crop that helps us to boost up our GDP and reduce the import burden of this crop.

Being a Pakistani and having a beautiful landscape and being a hardworking and dedicated person is not impossible in my vision.

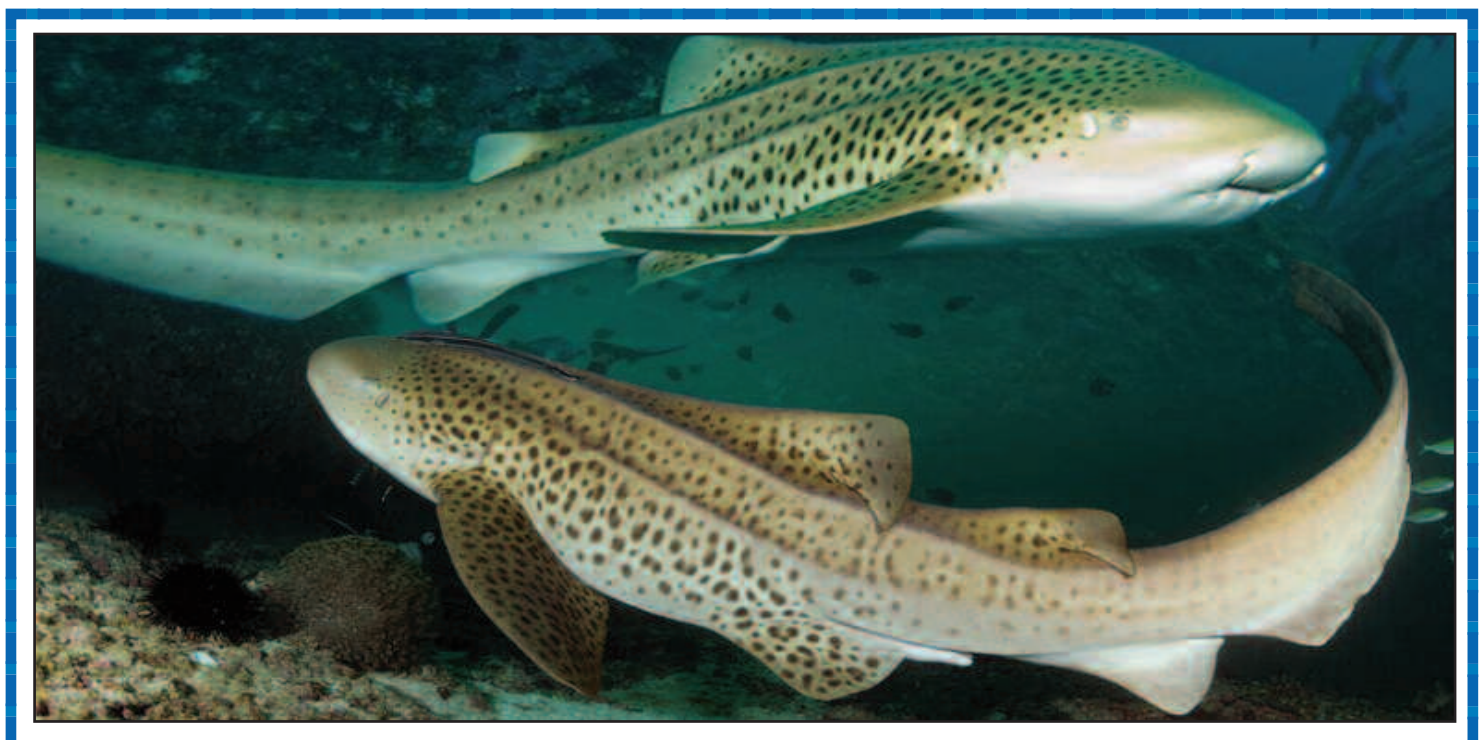
Soybean, cultivated for its high quality protein rich seeds, is an important crop in the food and agriculture industries due to their versatility and numerous benefits. In the food industry, soybean is a source of high-quality proteins and oil, making it an essential ingredient in many products such as tofu, soy milk, and soy protein.

These products are increasingly popular due to their health benefits Critical benefits of consuming tofu include its high protein level, which makes it a valuable food for vegetarians who may struggle to get enough protein from other sources; second, tofu is low in fat, unlike many different protein sources, making it a healthier option for those who are concerned about their fat intake; third, tofu is rich in nutrients, including iron, calcium, and magnesium.

Fourthly, it supports heart health as soy proteins in tofu have been shown to reduce levels of low-density lipoproteins, which are often referred to as bad cholesterol," and to improve overall cardiovascular health. It may also involve improving bone health as it contains high levels of calcium and magnesium. And it is a good meal for those who are trying to manage their weight.

Soy milk is low in saturated fat, which can help to improve heart diseases, and it is also a good option for those who are lactose intolerant, as soy milk is free of lactose. Soy protein is a plant-based protein powder made from whole soybeans or soy protein isolate.

On the other side, in the agriculture industry, soybeans are a valuable source of nutrition for livestock species, including poultry and ruminants. It is also the source of organic matter for soil and is adjustable in changing environments. The way in which soybeans can be used as livestock feed is in the form of soybean meal, in which the majority of soybeans are processed into soybean meal, which is the main source of protein for livestock feed. Soybean meal is high in proteins, and its amino acid profile is well-balanced, making it an ideal ingredient for livestock. Secondly, it can be used as a whole soybean, which can be fed to livestock as a protein supplement. It is particularly used for ruminants such as cattle and sheep. The third is soybean oil, which is a by-product of soybean processing and can be used as a source of energy in livestock diets. It is also the source of essential fatty acids, including linoleic acids, which are important for the growth and health of livestock, and soy hulls, which are the outer covering of soybeans and are a by-product of processing. They are high in fibre and low in protein and energy, making them suitable food ingredients for livestock. Overall, soybean, a versatile and valuable crop cultivated for its high quality protein rich seeds, plays a crucial role in the food and agriculture industries. Its numerous benefits, including its use as a source of nutrition, fuel,and economic growth, make it an important crop for the future. Combinable, we can say that soy is the crop that can easily adjust to the cropping system of Pakistan, as well as the key to many industries and businesses in Pakistan, which will help the nation and the country go in the way of prosperity.



# Zebra Sharks Reintroduction Hopes To Rebuild Wild Population

The zebra shark (Stegostoma tigrinum), a member of the Stegostomatidae family, was named Kathlyn, and Kathlyn was a little shark making big history.

Nesha Ichida, a scientist, concentrated intently on the tiny spotted shark she was holding as it bobbed on the surface of the turquoise, warm ocean water. The zebra shark (Stegostoma tigrinum), a member of the Stegostomatidae family, was named Kathlyn, and Kathlyn was a little shark making big history. Kathlyn and Charlie, two male zebra sharks released earlier, were a beacon of hope for scientists working to rebuild the wild population of zebra sharks.

A large shark that undergoes a radical transformation in coloration with age, they live in shallow coral reef habitats in warm tropical waters.

As the zebra shark ages, its black-and-white stripes are replaced by tiny black dots on a tan body, which makes it look a lot like a leopard. They can find food in these places thanks to their ability to squirm into small cracks and caves, including small fish, snails, sea urchins, crabs, and other small invertebrates.

Zebra shark meat is consumed by many inshore fisheries and is sold fresh or salt-dried in Indonesia, Thailand, Malaysia, the Philippines, and other nations. Shark fin soup is made with its fins and liver, which are used for vitamins.

ReShark is a global initiative that enlists the aid of scientists and shark nannies to release zebra sharks raised in aquariums into marine protected areas like Raja Ampat. These gentle predators have been bred from eggs to pups to juveniles in 44 aquariums by a group of 75 partners from 15 different countries.

Future zebra shark pups will be released into marine protected areas that conservation rangers patrol, just like Kathlyn and Charlie were. It took years to get here, but the project represents the first-ever attempts to restore sharks in areas where they are extinct.

Scientists frequently rewild animals on land, but until now, no one has attempted to do the same with endangered sharks. The team has successfully released the first two baby sharks, named Charlie and Kat, and plans to do the same with 500 more over the coming years, according to a press release from National Geographic. The same framework, according to scientists, may be applied to other threatened shark species, gradually "rewilding" their dwindling populations and providing them with a much-needed boost in population. The project's website states that the "ReShark collective is committed to ensuring ...***Read More***

# Loss Of Mountain Forests Threatens Biodiversity: Study

Threatened species are coming under increasing pressure as a result of the loss, which was concentrated in tropical biodiversity hotspots.

Mountains are home to more than 85% of the world's bird, mammal, and amphibian species, particularly in forest habitats. However, as reported by researchers in the journal One Earth on March 17, these mountain forests are rapidly disappearing.

Since 2000, we have lost mountain forest covering an area larger than Texas of 78.1 million hectares (7.1%). Threatened species are coming under increasing pressure as a result of the loss, which was concentrated in tropical biodiversity hotspots.

Mountain forests were once protected from deforestation by their rugged terrain, but since the turn of the twenty-first century, as lowland areas have become depleted or are under protection, they have been increasingly exploited.

The scope and geographic distribution of mountain forest loss were being studied by a team of scientists led by Xinyue He (@xinyue he), Dominick Spracklen, and Joseph Holden from Leeds University in the

United Kingdom, and Zhenzhong Zeng from the Southern University of Science and Technology in China.

The team did this by monitoring annual changes in mountain forests from 2001 to 2018. They estimated the rate at which change is happening, quantified gains and losses in tree cover, compared different elevations and types of mountain forests (boreal, temperate, and tropical), and investigated the effects of this forest loss on biodiversity.

"Knowledge of the dynamics of forest loss along elevation gradients worldwide is crucial for understanding how and where the amount of forested area available for forest species will change as they shift in response to warming," the authors write....***Read More***

# Government Pledges £3.5B To Make UK Technological Superpower

Michelle Donelan said: This week, we've shown that actions speak louder than words in our push to make the UK a scientific and technological superpower.

The Chancellor of the Exchequer presented his Spring Budget to the House of Commons, pledging nearly £3.5 billion to support the government's ambitions to transform the United Kingdom into a scientific and technological superpower.

This funding will support the Department for Science, Innovation, and Technology in delivering on the Prime Minister's key priorities, such as growing the UK economy and creating better-paid jobs and opportunities for people in industries across the country. The Chancellor also stated that the government will accept all of Sir Patrick Vallance's recommendations on regulating emerging digital technologies.

This is part of the government's plans to create the gold standard for regulation in tomorrow's technologies, providing a template that can be adopted globally....***Read More***

# Oliver Platform Develops To Impact Future Of Sport

Oliver Platform Develops To Impact Future Of Sport

José González and Agustin Rozadas have developed Oliver, an affordable and easy-to-use platform that collects data from players to improve their performance and help individuals and teams better understand team dynamics.

Their journey towards realizing this vision has recently been given an historic boost. FC Barcelona has entered into a research and development partnership with Oliver, a major breakthrough for the Argentinian startup.

This partnership will allow

Oliver to scale its technology and expand access across the globe, fulfilling its mission to give young players in Latin America a chance to "make it". Oliver's growth trajectory in Latin America and alliance with FC Barcelona's Barça Innovation Hub (BIHUB) will make it interesting to watch how this company could impact the future of the sport.

OLIVER and FC Barcelona will continue working together to bring innovation to football. From field annoyances to industry innovation The origins of Oliver platform can be traced back to a soccer field on the outskirts of Buenos Aires, where one of the company's founders discovered the difficulties of manual team training.

After being eliminated from a soccer tournament and confronted with discussions such as "who runs more" or "who should play in which position," José decided to look for a tool that could provide much more objective information about these parameters while also informing teams on how to improve their performance. When he couldn't find anything similar on the market, he decided it was time to form a team and create a product with these features.

The tool now assists soccer players in improving their skills and understanding of team dynamics by providing sports performance data via a small device tucked into players' socks during training and matches....***Read More***

# Microsoft Partnerships To Provide Boosteroid's Cloud Gaming Platform


Microsoft Corporation and Boosteroid announced a 10-year agreement on Tuesday to bring Xbox PC games to Boosteroid's cloud gaming platform.

Microsoft Corporation and Boosteroid announced a 10-year agreement on Tuesday to bring Xbox PC games to Boosteroid's cloud gaming platform. Boosteroid, which has a software development team in Ukraine, recently surpassed 4 million users worldwide and has grown to become the world's largest independent cloud gaming provider. After Microsoft's acquisition of Activision Blizzard is completed, Boosteroid customers will be able to stream Activision Blizzard PC titles.

This means that popular franchises like "Call of Duty" will reach more than 150 million additional players when combined with other partnerships recently announced by Microsoft. It also makes games developed by Xbox Game Studios, Bethesda, and Activision Blizzard playable on a variety of cloud gaming services and subscriptions. "We think that games have the ability to unite people....***Read More***

# Science Community Dissatisfied With Launch Of Chatbot GPT-4

The scientific community is dissatisfied with OpenAI's secrecy about how and what data the model was trained on, as well as how it works.

OpenAI's chatbot ChatGPT, GPT-4, unveiled this week. It has the capacity to generate text that appears human-like, images, and computer code from almost any prompt. However, scientists are unable to access the technology, source code, or details about how it was trained, raising questions about its security and its usefulness for research.

The March 14th release of GPT-4 now supports both text and images, and Open AI, a company with headquarters in San Francisco, California, passed the US bar legal exam with scores in the ninetieth percentile. However, the technology is only available to ChatGPT subscribers who have paid for access.

Evi-Anne van Dis, a psychologist at the University of Amsterdam, says that Chatbot GPT-4 is currently on a waiting list, making it impossible to use it right now....***Read More***

# Decarbonizing Heat Essential To Combat Climate Change

Compared to electricity (20%) and transportation (30%), heat accounts for 50% of the world's total energy consumption.

Decarbonizing heat is essential to combating climate change because it accounts for half of the world's total energy consumption. Half of all heating is provided by industrial heat, so decarbonizing this sector will require new innovations.

Decarbonizing heat offers chances to cut carbon emissions while also possibly spawning entirely new industries. Compared to electricity (20%) and transportation (30%), heat accounts for 50% of the world's total energy consumption. Unsurprisingly, more than 40% of the carbon dioxide ($CO_2$) emissions related to energy come from heat.

However, decarbonizing cars and electricity has been the main focus of recent climate initiatives. Efforts to decarbonize heat only really accelerated last year, following Vladimir Putin's invasion of Ukraine and the ensuing energy crisis. This may be the most difficult conflict—and greatest unrealized opportunity—in the struggle against global warming. In the United States, heating accounts for about 60% of total energy consumption at home, compared to about 80% in Europe.

Fortunately, because of the low temperature of the required heat here, electric heat pumps and renewable electricity are making progress in lowering emissions. In commercial and professional settings, the use of heat is even broader.

In addition to providing warm water and air, heating becomes essential in offices.

Consider the fast-food burger you consumed, the roasted beans in your latte, the hotel laundry that cleaned your bed linens and towels, and the scalding hot water and steam that a hospital uses to sanitise everything from dishes to scalpels....***Read More***