"Our nature is the mind. And the mind is our nature.
-Bodhidharma"

MEDICATION WITHOUT HARM

We often observe that people complaint regarding negligence of doctors, leading to demise of their loved-ones, thereby raising a question over the efficiency and working of the medical faculty. A doctor is considered as next to the God as he relieves a patient from several deadly ailments besides making him fit and healthy to live a happy life. The government is also trying hard to ensure safety of all patients, under treatment, by several initiatives. The Ministry of Health and Family Welfare, Govt of India observes 'Patient Safety Day' 0n September 17 every year. This year the theme of the Patient Safety Day was 'Medication without Harm'. For creating, awareness on patient safety issues among field-level functionaries, MoHFW has organised a week-long 'Rogi Kalyan Saptaah' from the 12th - 17th September, wherein all the states, districts, and healthcare facilities organised a series of activities to improve the safety of the healthcare system for everyone including patients and service providers. At the national level, in a function held on September 16, 2022, Rajesh Bhushan, Union Health Secretary released a self-assessment tool, 'SaQushal- Patient Safety Self-Assessment Tool' under the existing National Quality Assurance Standards (NQAS) and also administered the Patient Safety Pledge. The tools have been developed by QPS Division, NHSRC in collaboration with the subject matter experts. The tools would enable the health facilities for self-assessment in matrix of safety and help them to reduce errors.

In his address, the Health Secretary emphasised different steps taken by the Government of India to ensure quality and patient safety at public healthcare facilities. He urged the states to undertake baseline assessment of all health facilities and develop a roadmap for having maximum number of health facilities, as NQAS certified. The launch event was followed by national webinar, wherein eminent speakers spoke on multiple facets of patient safety, including medication safety. A series of webinars have been planned over next two days. The first Webinar was inaugurated by Prof (Dr) Atul Goel, Director General of Health Services. The launch event and webinar attracted a large audience with over 850 healthcare professionals from public and private institutions, Mission Directors NHM, senior officials from the Ministry of health and family Welfare, nodal officers and other officials working in the field of Quality and patient safety at states and UTs. Representatives from academic institutions, development partners, NGOs, and International agencies, were also present in the webinar.

OFF 'D' CUFF

WALKING ON THE PATH OF DEVOTION

If you want to walk on the path of Bhakti [devotion], then learn to keep your temperament cool. Learn and try to be simple, prevent yourself from doing cunning activities. Nowadays, people pretend to be more knowledgeable and learned than they actually are.

According to Manu, the greater a person is in his artificial behavior and attitude, the more restless he will be. Wealth brings such an addiction with it that the more you have the more is the craving to add to it. A person who does not have hunger or lust for anything is the richest of all. A simple and modest person with peace of mind is referred to as 'Saumya Saumya'. According to Maharishi Ved Vyas, Lord Krishna had three major attributes, which we all should try to adopt.

The first attribute is Happiness for Loyalty

If you want to walk on the path of Bhakti, don't let smile disappear from your face. If you encounter any problem, do not worry it. Smile and you will gather strength to face the problem. If you smile, your problem will not be a problem anymore, you will solve on its own. When clouds of sorrow envelope you and you find someone very dear approaching you, tears roll down your eyes.

So was the case when Draupadi saw Lord Krishna towards the end of the period when Pandavas were in exile. Krishna comforted Draupadi and advised her neither to think about the past nor to worry about the future. The best is to think about the present and gather your strength.

To this Draupadi remarked that it was easy for him to say all this because he himself had not seen sorrow. How could he understand her state of mind? Lord Krishna smiled and asked Draupadi how she could think that the person who had taken birth behind the four walls of a prison had seen less sorrow. The only difference was that he never treated sorrow as sorrow.

The second attribute for devotion.

The second attribute is that one should not lose one's balance of mind when one encounters a problem. When problem comes on our head one after the other, we human beings have a tendency to say: "O Lord, why only me? What have I done?" Or, we start having depression out of fear and frustration and several unhealthy thoughts like revenge, suicide, etc. crowd our minds. We have to face problems firmly and boldly rather than sit and crib about them.

If you harm somebody, you cannot escape the harmful consequences of your deed for steadfastness.

The third attribute is that one should maintain one's poise and calm. One must not lose sweetness of voice. Do not sound bitter and rude to people nor should you be harsh in your words. Be polite.

Whatever you achieve, learn to share it with others. If you have been doing misdeeds in your life and have simultaneously been generous enough, you shall bear(Devotion the fruits of both. Also, treat others as you would like to be treated yourself. But always remember one thing: your actions are constantly being viewed and monitored by God.

Every person has to bear his share of sorrow. To save himself from the consequences of his misdeeds, he uses various products – stones, threads, metal pieces etc. But why? Do you think by doing all these, your share of sorrow will get reduced? Rather, if you have done something wrong, you should pray to God and ask for forgiveness and Devotion. multaneously, you should prepare yourself to face the consequences. Pray to God to give you the courage and strength to face difficulties and hurdles in life. What are happiness and sorrows? To my mind, the limit till which you can bear is happiness and when you cross the limit, you experience sorrow. Sorrow of the size of a mountain weighs like a piece of straw for those who have mental strength, who take things in their stride, who keep smiling and doing their duty while for those who lack these qualities

sorrow of the size of straw weighs like a mountain. So, remember, whatever be the circumstances, whatever be the hurdles in your life's journey, face them as a challenge, with courage and with total faith in God.

-Dr Archika Didi

Empowering J&K farmers through horticulture

■ **DR BANARSI LAL**

Union Territory of Jammu and Kashmir is endowed with a wide range of agro-climatic conditions which are conducive for growing different kinds of horticultural crops. The agro-diversity of J&K varies from subtropical in Jammu region to temperate in Kashmir region. The average annual rainfall of these two regions is 1069 mm and 660 mm. The average temperatures of these two regions are 24.5 and 13.3 Centigrade respectively. Horticulture sector is the backbone of J&K's economy. There is an immense scope for strengthening various commercial horticultural activities to enhance the income of the farmers. Horticultural sector contributes immensely to strengthen the financial condition of Union Territory of J&K. This is a core sector of Jammu and Kashmir agriculture and about seven lakh families are directly or indirectly engaged in it. This sector also creates employment in other trades such as farm machinery, fruit processing units, pesticides etc. About 20 per cent area of J&K is under horticultural crops. Horticultural sector contributes about Rs 10,000 crore to the annual income of J&K. Area under horticultural crops has also increased steadily. Seventy per cent of total apple production and ninety per cent of dry fruit production in the country produced from J&K. Among the horticultural crops in J&K apple occupies the predominant position constituting about 55 per cent of the total area under fruit crops. Major thrust in horticultural activities is given in hilly areas of J&K. The fruit crops grown in J&K are apple, almonds, walnuts, pears, cherries and apricots in temperate areas and mango, citrus, litchi, ber, papaya, guava etc. in subtropical areas. Saffron cultivation in J&K is unique in the world. The annual production of Saffron in J&K ranges from 10 to 20 tonnes. The J&K government is making strenuous efforts to increase horticultural crops production. SKUAST-J, SKUAST-K and Department of Horticulture are making strenuous efforts to introduce new innovations in the horticultural sector in J&K. Incentives are given to the fruit crops growers to develop fruit orchards in J&K. Subsidy to the extent of 50% of fruit plants and inputs used by the farmer are provided. It has been observed that around 40 lakh tones of fruits are exported annually from the Union Territory of Jammu and Kashmir. In horticultural crops post -harvest losses range from 15-20 per cent. In J&K about 94 per cent of the land holders fall in the category of small and marginal farmers.

Horticultural sector contributes significantly to the economic and ecological development, employment generation, export and nutritional requirement of the people of Jammu & Kashmir. Horticultural crops are adapted to a wide range of climatic conditions, produce higher biomass per unit area as compared to field crops, are more remunerative for replacing subsistence farming and thus may aid in alleviating poverty in difficult agro- ecosystems as rain fed, dry land and hilly areas of J&K. There is also great potential to improve wastelands for productive use in the Union Territory of J&K. If grown commercially horticultural crops can provide employment opportunities round the year to the people of J&K. Increase in demand for horticultural produce due to great health awareness, rising income, export demand and increasing population poses the challenge for further increasing the production and productivity of horticultural crops. The issue of climate change and climate variations has resulted in more uncertainties and risks in this already high capital intensive system. This has resulted in further aggravating the constraints on horticulture production system. The major challenges before us is to have sustainability, higher levels of production, competitiveness to stay in market, regular production, land, water and more importantly threat of climate change. In order to mitigate the above challenges, we need innovations for improving horticultural crops production in J&K.

In order the increase the production, productivity and quality of horticultural crops in J&K, there is dire need to focus on the adoption of innovative technologies developed by our research innovations and development efforts. There should also be attention on reducing the cost of cultivation and increasing the more returns in horticultural sector. In this case natural farming and organic farming can play a significant role in reducing the cost of cultivation and increase in the quality of horticultural crops produce. We should utilize our research and development to increase the fruits and vegetables production. In order to increase the production, productivity and quality of produce and reduction in the cost of production, our research institutes/centers have identified certain key areas and have generated current knowledge in this area which needs to be disseminated to the farmers in a systematic way so that farmers are enabled to increase the area under fruits and vegetables, adopt the modern technologies, use the optimum inputs and achieve the desired demand of horticultural crops. Production of horticultural crops can be increased by increasing the area and by applying the scientific production technology. In J&K it is difficult to increase the area under these crops but still there is possibility to increase the area by adopting the methods such as (a) by utilization of land through inter-cropping/mixed cropping in existing orchards, growing crops in the vacant lands. (b)Development of appropriate varieties of horticultural crops suitable reclaimed wastelands and dry land regions. (c) Adoption of cost effective poly house technology. (d) High density planting by reduction in planting by reduction in planting distance or by use of plant growth inhibitors and dwarfing rootstocks in crops like mango, citrus, banana, apple and some other fruits. Productivity can be increased by bringing maximum possible area in a systematically drawn plan of five years under high yielding or rejuvenating the already existing orchards along with full package of innovative practices. It can help in improving the quality of produce and reduction in the cost of cultivation. In the conventional methods of crop improvement both desirable and detrimental genes get transferred from parents. The modern biotechnology system helps to insert single or more than two desirable genes into the crop. Traits can be modified through the genetic engineering that helps to increase productivity and improve the nutritional quality. This technique helps production of uniform size, shape, size and colour of horticultural crops. Micropropagation is the most popular technique for production in the world and supply of identical plants. Propagation technique through tissue culture and molecular indexing for culture of diseases are of immense use in making available healthy and quality planting material. Micro propagation protocol has been developed in various horticultural crops such as banana, grape strawberry etc. In present era farm mechanization is very much helpful in reducing the cost of labour and conducting timely farm operations efficiently and effectively. For mechanizing cultivation of horticultural crops, implements have been designed for the use of horticultural crops growers. Integrated pest and disease management helps us to judiciously use the plant protection methods viz. cultural, biological, chemical, physical/mechanical or regulatory control methods. Micro-irrigation and fertigation techniques need to be popularized among the horticultural crops growers of J&K. Under this system, water is applied at a low rate for a longer period at frequent intervals. Greenhouse technology can modify the environment for optimum plant growth and production of uniform and high quality horticultural crops produce. Organic farming contributes in improving the quality of horticultural crops which have high potential export market. Major components of organic farming are addition of organic manures, adoption of crop rotations and enhancement of soil fertility through biological fixation of nitrogen. Proper post-harvest management reduces the post-harvest losses by proper handling and packaging and adoption of suitable low cost storage infrastructures. There is need to establish the quality control laboratories to ensure the exporters that commodities being exported get international standards. Research institutions should also take lead role in providing the proven technologies to the horticultural crops growers and demonstrate the effectiveness of technologies on horticultural crops growers' fields for the final adoption.

(The author is Head, KVK Reasi, SKUAST-J).

Bael-myriad of nutrients

■ **DR VIKAS SHARMA**

Bael is one of the most appreciated plants used in ayurvedic medicine by the Indian and other South Asian inhabitants in ancient history. According to the historical records, bael is used as a medicinal and food item since 5000?B.C. and known to human beings even when writing the famous Sanskrit epic-poem Ramayana. Ancient Ayurvedic scriptures also mention Bael as one of the 'Dashamoolas' i.e., roots having anti-inflammatory and pain-relieving properties. It is a middle-sized tree, with slender branches, pale brown bark that often oozes an edible gum. The leaves of bael are quite unique, trifoliate in shape which means each leaf consist around 4 to 12 pairs of side veins adjoining at the margin. The Bael fruits are globose in shape, with a hard exterior and it doesn't split open even upon ripening. The raw fruits look greenish grey while the woody exterior turns yellow upon ripening. The ripened fruit contains aromatic pulp with around 10 to 15 seeds, enclosed in a sac filled with natural adhesive.

Each and every part of the tree has a therapeutic benefit. The fruit has Katu (pungent), Tikta (bitter) and Kashaya (astringent) properties. It has Ushna Virya (hot potency) and Katu Vipaka (i.e., pungent metabolic property). It aggravates the Pitta doshas (digestion) and pacifies Vata (air) and Kapha (earth and water) Doshas. The fruit when taken unripe is very effective in improving digestion and preventing constipation. The ripe fruit has Madhura ras (sweet taste), but aggravates all three doshas. However, it plays a key role in treating and curing diarrhea and cholera. The roots of the plant prevent vomiting and nausea. Churna from the leaves of the plant balances the three doshas and is effective in preventing abdominal colic pain, dyspepsia and gastritis. Decoction of the stem or bark of the plant plays a key role in treating heart related ailments, improves digestion and treats rheumatoid arthritis.

Bael, is one of the medicinally treasured tree species and is also known as begal-quince, golden apple and stone apple in India and a sacred tree in places where Hindus lives. Bael trees are usually planted near temples dedicated to Lord Shiva and routinely worshiped by the devotees. Bael is one of the most appreciated plants used in Ayurvedic medicine by the Indian and other South Asian inhabitants in ancient history. According to the historical records, bael is used as a medicinal and food item since 5000?B.C. and known to human beings even when writing the famous Sanskrit epic-poem Ramayana. Bael mentioned in the renowned book Charaka Samhita, a comprehensive compilation of all the essential Ayurvedic information, which identified bael as a necessary item in Ayurvedic medicine. It holds much significance in Ayurveda due to its wide range of benefits.

Bael is loaded with a myriad of nutrients which include vitamins A, B1, B2, C and minerals calcium, potassium and iron. The host of plant compounds in bael is beneficial in treating tuberculosis, hepatitis, ulcer and digestive problems. Furthermore, it is also a good source of tannins which aid in treating cholera. Bel leaves are naturally antibiotic and antifungal, which is beneficial for health. The extract of Bel leaf can control cholesterol levels in the blood. The juice called Bel sherbet is also made from the tree's fruit which holds high medicinal values.

High source of carbohydrates: Bael being high on carbohydrates provides ample amounts of energy to the body for carrying out various bodily activities. Consumed in a limited quantity, it helps the brain cells to work better, aid in digestion and keeps a check on the cholesterol level.

Rich source of vitamins and minerals: The abundance of potassium in Bael makes it an appropriate fruit for people suffering from hypertension. It prevents the arteries from hardening, thus reducing strokes and preventing heart ailments. The richness of potassium in bael helps to eliminate sodium through urine and also eases the tension on the blood vessel walls which helps in lowering the blood pressure and treating the various symptoms of hypertension.

Calcium being the second abundant element present in Bael is vital for bone health. It attributes to the strengthening of teeth, bones and prevents osteoporosis. It also plays a major role in controlling loss of blood in case of injuries. It also acts as a natural blood purifier and increases red blood cell and hemoglobin count in blood because it is rich source of iron. It is extremely beneficial for people suffering from anemia.

Rich source of Vitamins: Bael being loaded with Vitamins has innumerable health benefits. It is a rich source of Vitamins A, B and C and the presence of these multivitamins make Bael the number one choice among fruits in the treatment of eye problems, digestive disorders, heart ailments, skin diseases and by preventing the body against infections and enhancing the overall immunity. Antioxidants: The high content of phytochemicals such as flavonoids attribute to the anti-oxidative properties of Bael making it a potent fruit against heart and liver ailments, reduces high cholesterol and is also useful against various infections.

(The author is Associate Professor (Biochemistry), SKUAST-J).

YOUR COLUMN

Confluence of subjects in Higher Education

Dear Editor,

The integrated model brings together knowledge of multiple disciplines and different methods of research in a single curriculum. Graduates of STEM courses should be educated about social health protection and have increased awareness of various cultural, socio-environmental and economic contexts for the potential for creative solutions. Only an integrated approach in higher education can make possible intellectual engagement, policy-based solutions and dynamism. Academic structure around the world Driven by market values, privatization of higher education and utilitarianism. Graduates from this academic environment are expected to become part of the working population in a short span of time. There is a general perception that there are fewer business opportunities for arts and social science graduates than for STEM (Science, Technology, Engineering and Maths) or commerce. The COVID pandemic has further strengthened this perception. As a result the resources of the arts and humanities faculties have been drastically cut. on a global scale Many programs and courses related to arts and humanities have also been closed. What should happen is that there should be a balance between technology and the arts and the humanities. It is worth noting in this context that the National Academy of Engineering in the US has identified major global challenges in a report, 'Grand Challenges for Engineering'. The American Society of Mechanical Engineers Strategy Vision 2030 and the National Academy of Sciences also recommend that solutions to societal challenges look beyond technical knowledge should go. Several other studies in different contexts have also reached the same conclusion. The pandemic has taught us that the solution to the world's gravest problems lies in the continued cooperation of all disciplines. We not only need subjects related to arts, sociology and humanities, but their inclusion in engineering and STEM degree courses are equally essential. The engineering curriculum in higher education has focused so much on technical education that subject with human values such as arts and sociology. There is an indifference towards him. Usually engineering students study some subjects from the list of approved courses in arts and humanities only to meet the requirements of education, which have no relation with each other. In countries like the US, 15-20 percent of the curriculum for a bachelor's degree in engineering is related to the arts and humanities. At the same time, about 10 percent of the courses for bachelor's degree in Indian Institute of Technology ie IIT are related to arts and humanities. national technology In institutes it is less than three percent, whereas in many engineering colleges in different states, arts and humanities courses are not available at all. There can be some exceptions. Huge progress has been made in the technical field in the last few decades. In this dynamic, evolving environment, there is a special need for the graduates to be able to communicate their ideas clearly, to solve unexpected problems or to work well in a group to enable them to be present and future. from such an education in which tomorrow Thoughtfully integrated into the engineering curriculum, education and humanities courses enhance the capacity for critical review, the ability to interact, the ability to work together, and the potential for lifelong learning. Hence, we need education beyond technical training to graduates to meet the challenges of the future, which integrates various disciplines like arts, humanities, sciences, social sciences, engineering and mathematics. This integrated model of education provides a wide range of knowledge and research across multiple disciplines in a single curriculum. Brings together ways where students can understand the interrelationship between these disciplines and enrich their learning by successful use and experimentation. Ability to recognize ethical and professional responsibilities and make informed decisions in challenging situations. Also be able to provide appropriate engineering solutions considering their impact in global economic, environmental and social contexts. Some research indicates that the integration of the arts, humanities, and engineering into higher education has a positive impact. It develops a number of skills such as critical thinking process, ethical decision making, problem-solving and mutual cooperation, which increase employability. This integrated approach also enhances the participation of women and marginalized sections as a social-reform tool. Graduates of STEM courses must be educated about social health, safety and have increased awareness of various cultural, social, environmental and economic contexts to have the potential for creative solutions. High Only an integrated approach to education can make possible intellectual engagement, policy-based solutions and dynamism. The integrated curriculum calls for a fresh-minded global initiative, in which institutions and academia will have to come forward.

Vijay.