Volume VI - Issue 8, 2018.

Agri-Business Supplement
Zarai Taraqiati Bank Limited.

PRODUCTION TECHNOLOGY OF JAMUN

Jamun (Syzygium cumini Skeels.) is an evergreen tropical fruit which belongs to the family Myrtaceae. Vernacular names for Jamun includes Java Plum, Jambolana, Jambu and Black Plum. It is native to Pakistan, Bangladesh, India, Nepal and Sri Lanka. It attained importance as an arid zone horticulture crop because of its hardy nature and high yielding potential. Drupe fruit emerge in clusters of different sizes. It's fruit is oblong or ovoid-oblong and it attains dark purple color at maturity. In Pakistan, most Jamun trees are found scattered throughout the tropical and subtropical regions and no planned orchards exist yet. Jamun fruit possesses considerable nutritive value. It is a good source of iron, apart from the usual content like minerals, sugar, proteins, pigments etc.

Nutritive value of Jamun fruit (100gm)

Nutrient	Percentage
Moisture	28.2
Protein	0.7
Fat	0.1
Mineral	0.4
Fibre	0.9
Carbohydrate	19.7
Calcium	0.02
Phosphorus	0.01
Iron	1.0
Calorific value	83

Flowering and Fruiting

Flowering starts in first week of March and continues till the end of April. Flowers are born in axils of leaves on branchlets. Jamun is cross-pollinated and its pollination is done by honey bees, houseflies and wind. Maximum fruit set can be obtained by hand pollination when it is done after one day of anthesis. Thereafter, a sharp decline is observed in fruit set.

After blooming, there is heavy drop of flowers and fruits in 3rd and 4th week. Later natural fruit drop can be reduced with two sprays of GA3 60 ppm, one at full bloom and another 15 days after initial setting of fruits. The pattern of growth and fruit development of Jamun can be divided into three phases: the first phase from 15-52 days after fruit set having slow growth of fruit, the second phase from 52 to 58 days after fruit set having fast growth and the third and last phase from 58 to 60 days after fruit set having slow growth and very little addition in fruit weight.

Intercropping

In the initial years of planting, when a lot of interspace is available in the orchard, appropriate intercroping especially of leguminous crops and vegetables can be done during rainy season.

Varieties

There is no improved variety for commercial cultivation. Common types are; Desi Jamun and Ra Jamun.

Training and Pruning

Regular pruning is not required. However, in later years the dry twigs and crossed branches are removed. While training the plants, the framework of branches is allowed to develop above 60 to 100 cm from the ground level.

Climate

It grows well in tropical and subtropical climate. Jamun requires dry weather at the time of flowering and fruit setting. In subtropical areas, early rain is considered beneficial for ripening of fruits and proper development of fruit size, colour and taste.

Propagation

Jamun is propagated both by seed and vegetative methods. Its seeds show polyembryony up to 30-40. Seedlings are ready for transplanting to be used as rootstock in the following spring (February to March) or monsoon i.e. August to September. Budding or

grafting is practiced on one year old seedling stocks, having 10 to 14 mm thickness. The best time for budding or grafting is July to August in low rainfall areas.

Planting

Jamun is an evergreen tree and can be planted both in spring i.e. February -March and the monsoon season i.e. July-August. Prior to planting, the field is properly cleared and ploughed. Pits of 1 x 1 x 1 m size are dug at the distance of 10m both ways. Usually, work of digging of pits is completed before the onset of monsoon. The pits are filled with mixture of75% top soil and 25% well rotten farmyard manure or compost.

Fertilizer Application

On very rich soils, trees have a tendency to put on more vegetative growth with the result that fruiting is delayed. When the trees show such a tendency, they should not be supplied with any manure and fertilizer.

Irrigation

Irrigation should be given just after manuring. Young plants require 6-8 irrigations for better growth. In bearing trees, irrigation should be given from September to October for better fruit bud formation and from May to June for better development of fruits. Normally 5-6 irrigations are required.

Insect Pests

1. *White Fly (Dialeurodes eugenia)*

Affected fruits get wormy appearance on the surface. White fly can be controlled by maintaing sanitary conditions around the tree and digging up the soil around the tree trunk so that the maggots in the affected fruits and pupae hibernating in the soil are destroyed.

2. *Leaf Eating Caterpillar (Carea subtillis)*

The insect infests the leaves and may defoliate the tree. It can be controlled by spraying Rogor 30 EC or Malathion @ 0.1 per cent.

Harvesting and Yield

The fruit ripens in the month of June -July. The main characteristic of ripe fruit at full size is deep purple or black colour. The fruit should be picked immediately when it ripe, because it cannot be retained on the tree in ripe stage. The average yield of fruits from a full grown seedling tree is about 80 to 100 kg per year.

Storage and Marketing

The fruits are highly perishable in nature. They cannot be stored for more than 3 to 4 days under ordinary conditions. However, pre cooled fruits packed in polythene bags can be stored well up to three weeks at low temperatures of 8 to 10°C and 85 to 90% relative humidity. The fruit is packed and sent to the market almost daily. For marketing, well ripe and healthy fruits are selected. Damaged, diseased and unripe fruits are discarded. These selected fruits are then carefully packed in wooden baskets and sent to the local markets. The fruits are highly perishable in nature. They cannot be stored for more than 3 to 4 days under ordinary conditions. However, pre cooled fruits packed in polythene bags can be stored well up to three weeks at low temperatures of 8 to 10°C and 85 to 90% relative humidity. The fruit is packed and sent to the market almost daily. For marketing, well ripe and healthy fruits are selected. Damaged, diseased and unripe fruits are discarded. These selected fruits are then carefully packed in wooden baskets and sent to the local markets.

Uses

- Seeds of Jamun are effective medicine against diabetes.
- Jamun leaves are used as fodder for cattle, sheep and goats. They also act as food for tassar silkworms.
- The essential oils are used in soap making and perfumes.
- It's bark is used in tanning and dyeing industries.
- Jamun flowers are rich in nectar and yield high quality honey when apiculture is done.
- Wood is exceptionally strong and water resistant, therefore it is used to make bullock cart wheels and agricultural implements. It is also used in construction of houses.

Medicinal Value

- Seeds contain glucose "Jambolin" which is believed to have the power to check the

pathological conversion of starch into sugar in case of increased production of glucose. Jamun seeds also contain glycoside which inhibits the conversion of starch in to sugars, therefore, powdered seeds are useful for sugar patients.

- Inner bark of Jaman tree is used for treatment of diabetes.
- Its seeds are useful in production of excess urine and used for treatment of Polyurea.
- It can also be used for treatment of bleeding piles.
- Good source of iron and useful for heart and liver patients.
- It activates the liver and spleen.
- Regulates heartbeat.
- Purifies blood, cures anemia and stops skin eruptions.
- Stops diarrhea & dysentery.
- Relieves throat infections and other respiratory diseases.
- Removes worms.
- It breaks renal stones.

Sources:

- *http://www.pakissan.com*
- *www.knowfarming.com*

COTTON LEAF CURL VIRAL DISEASE

Cotton (*Gossypium hirsutum*) is an important fiber and cash crop as it contributes a lot to the national economy as it is a source of income for many people. This crop is very important in textile industries. Cotton not only provides fiber to textile industry but its seed is used as an important source of edible oil. Pakistan earns about 60% of the foreign exchange by the export of cotton. Therefore, cotton holds a remarkable position in our economy.

Cotton is affected by many insect pests and diseases but Cotton Leaf Curl Virus (CLCuV) Disease is the most destructive disease of cotton as it causes heavy losses and it is a serious threat to cotton. This disease was first time reported in Nigeria in 1912. In 1959, it was reported in Philippines. In Pakistan, it was first reported in 1967 at Tiba Sultan Pur near Multan district. In its early times it was left un-noticed but in 1993–1995 it appeared in epidemic form in Pakistan and caused huge losses.

Cotton Leaf Curl Virus is a single stranded DNA virus. Cotton Leaf Curl Virus is a member of "Begomovirus" and family "Geminiviridae". This virus is neither seed born nor soil borne. It has some alternate hosts where it survives these alternate hosts are Tomato, Tobacco, Lehli, Dhatura, Okra, China Rose etc. The most important means of virus transmission is whitefly (*Bemisia tabaci*), some scientists also considered *Bemisia argentifoli* as insect vector of cotton leaf curl virus. Whitefly has 473 different host plants. This whitefly acquires the virus from infected plant and transmits it to the healthy ones. Ones the virus is acquired by the whitefly it remains in it throughout its life. Cotton leaf curl virus requires 30 minutes of feeding on infected plant to acquire the virus and a latent period of 24 hours and then 30 minutes of feeding on healthy plant to transmit the virus leading to unnoticeable changes at the initial stage to remarkable variations in growth patterns at later stages of cotton plant development.

Symptoms

Symptoms shown by cotton leaf curl virus are the upward or downward curling of leaf. Vein thickening is shown by the leaves which are small veins thickening and main vein thickening. Infected plants become dark green in color. Plants become stunted in growth with no proper yield patterns and the petioles

become twisted or deform to spring shape. Enation occurs on the leaf which is a small leaf like structure forms under the leaf mainly due to tissue malformation and sometimes due to blockage of veins and hence hindrance in food and water channels. Enation is the main identification mark of cotton leaf curl virus disease.

Climatic Factors

Many environmental factors are responsible for the establishment of cotton leaf curl virus. Temperature range of 28 ^{o}C – 40°C, relative humidity of 58 – 60%, wind speed at the rate of 6 – 12 km/h is suitable for the development of cotton leaf curl virus. Similarly, optimum environmental conditions are important for the whitefly (*Bemisia tabacii*) or *(B.argentifoli)*. These optimum conditions are less rainfall, less humidity and optimum maximum and minimum air temperature. Alternate hosts also provide support in the survival of the virus.

Control

For managing cotton leaf curl virus disease, there are several methods which can be adopted to manage this destructive lethal disease. The use of resistant varieties is important source for the control of cotton leaf curl virus disease but now the resistance has been broken by a strain of cotton leaf curl virus called "Burewala strain" mainly in prominent attack noted in 2005 but still the use of resistant varieties cannot be left to avoid heavy and unbearable losses. Some resistant varieties are NIAB – 884, NIBGE – 2. Field sanitation practices should be properly adopted. Strict quarantine regulations should be imposed in order to check the incoming planting material for any viral or insect infection. There should be no presence of alternate host near the field where cotton is grown. Foliar application of macro nutrients and micro nutrients is very helpful for managing this disease. If an infected plant is seen in the field, uproot that plant immediately and burn that infected plant. Diseased plant debris should also be burned. Control of insect vector by using insecticides like Diafenthiuron, Buperofezan, Imidacloprid. But World Trade Organization recommends the judicious use of pesticides in order to avoid the residual effects which pollute our environment. Biological control is another option as this is environmental friendly. Use of laundry detergent mixed with plant derived oil is suitable for control of whitefly. Similarly, spraying the mixture of plant derived oil in large volume of water also reduces whitefly population which ultimately reduces cotton leaf curl virus disease. Use of furnace oil and mixture of Nimbokil and furnace oil is also found suitable for managing cotton leaf curl virus. Neem extract can also be used.

Source: www.agrihunt.com.pk

APPLICATION OF NANO TECHNOLOGY

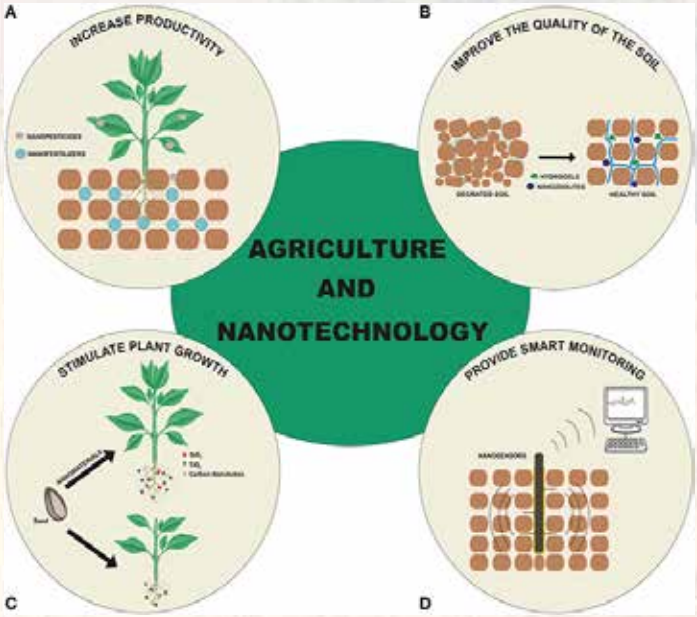
Agriculture is the backbone of the Pakistan's economy. Today agriculture sector of Pakistan is facing many environmental challenges like, urbanization, deforestation, depleting natural resources, global climate change and increasing pollutants in environments linked with the use of agrochemicals. Therefore there is need to develop environment-friendly solutions to improve quantity and quality of food supply.

The aim of application of nonmaterial in agriculture is to reduce application of plant protection products, minimize nutrient losses in fertilization, and increase yields through optimized nutrient management. Nanotechnology devices and tools, like nano-capsules, nanoparticles and even viral capsids are examples of uses for the detection and treatment of diseases, the enhancement of nutrients absorption by plants, the delivery of active ingredients to specific sites and water treatment processes. The use of target-specific nanoparticles can reduce the damage to non-target plant tissues and the amount of chemicals released into the environment. Nanotechnology derived devices are also explored in the field of plant breeding and genetic transformation.

Nanotechnology can be used as a tool for the precision agriculture. Through advancement in nanotechnology, crop growth and field conditions like

soil fertility, wetness level, weeds, temperature, insects, plant diseases, etc. are often monitored. For this network of wireless nano-sensors are used. By knowing the plant physiology, time and level of water, fertilizers and pesticides, processes are often administered that ultimately decrease the resource inputs and maximize yield. This technology is also important in seed management. Seed is most essential input determining productivity of any crop. Usually, seeds are tested for germination and distributed to farmers for sowing. It is hardly reproduced in the field due to the insufficient moisture under rain fed conditions. Hence it is quite appropriate to develop technologies for rain fed agriculture.

Metal Oxide nano particles and carbon nano tube can be used to progress the germination rate of rain fed crops through better permeation of moisture into seeds. Carbon nano tubes serve as new pores for water permeation by penetration of seed coat and act as a route to channelize the water from the substrate into the seeds. These can facilitate germination which can be exploited in rain fed agricultural system.



Weeds are menace in agriculture. Herbicides in the market are designed to control or kill the above ground part of the weed plants. None of these inhibits activity of viable ground plant parts like rhizomes and tubers, which act as a source for new weeds. Improvements in the effectiveness of herbicides through the use of nanotechnology could result in higher yield of crops. Nanotechnology can be used to promote efficiency of agrochemicals like fertilizers, pesticides, herbicides, plant growth regulators, etc. The newly developed nano-fertilizer will bring down the use of chemical fertilizers by 80-100 times, thus saving significant foreign exchange in import of fertilizers. Clay nano tubes are used as carriers of pesticides for low value, extended unleash and higher contact with plants. They decrease the utilization of chemical pesticide at least 65-75%. These carriers can slow the uptake of active ingredients, therefore scale back the number of inputs to be used and conjointly the waste created.

Roll in Pollution Control

Nanotechnology has prospective role in remediation of organic and inorganic pollutants, which then may enter into food chain and may cause some severe health problems. Due to high surface area and smaller particle, nano materials offer great potential to absorb pollutants from the contaminated soils and water.

Increasing Shelf Life

Nanotechnology has also a role in quality and shelf life upgrading of agricultural products. Nano-lamination supports in preserving quality and freshness of food. Nano-laminates are sprayed on food which enhance the texture level and help in food preservation. The negative electrons ensuing from the excitation of nano-particles are inoculated in food which eradicates bacteria. Hence used in food packaging. Nano-barcodes are used for tracking and identification of agri-products. Then for the identification of nano-barcodes UV lamps and optical microscope is used.

Drawbacks of Nano Technology

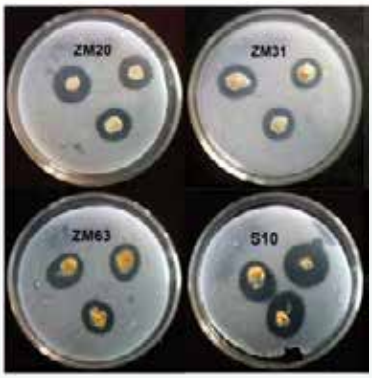
This technology has some drawbacks that are unconfined into the environment during its processing and treatment. They impact on human health and environment. Most of the nano-materials are expensive as compared to conventional materials. Proper knowledge of nano-material and its interactions in human body is not available. Research is needed on emergent cost effective methods of synthesizing and testing the efficiency of nano-materials at large scale for successful field application and reduction of negative effects on humans and environment.

Source: www.agrihunt.com.pk

ROLE OF ZINC SOLUBILIZING BACTERIA IN PLANT GROWTH AND HUMAN HEALTH

Approximately 1/3 of total world's population has become victim of Zn malnutrition which poses serious health hazards to human and causes thousands of deaths, annually. 37% population of Pakistan is suffering from Zn malnutrition. In Pakistan,

micronutrient deficiency in plants is due to arid to semiarid climate, high temperature and alkaline soils with low organic matter. Some other reasons for the malnutrition of micronutrients are use of high yielding crops, high cropping intensity, imperfect cover of crop residues and excessive use of synthetic fertilizers.



Zinc deficiency makes plant susceptible to light, fungal infections and heat. It also affects pollen formation, water uptake and transport, root development and grain yield. Specifically, in plants, zinc is involved in carbohydrate metabolism, auxin metabolism. Plants absorb zinc as divalent cation but only insignificant amount of total soil zinc is available in soil solution for plants uptake. Remaining portion of total soil zinc is in the form of insoluble compounds and minerals.

Deficiency symptoms of zinc differ among species of plants but most of the symptoms are common. Zinc is an immobile nutrient, so deficiency symptoms mainly appear on the young leaves. The newly emerging leaves are smaller with close and curling margins. Leaves turn yellow and commonly interveinal area but main veins of the leaf remain green. With the passage of time, chlorotic spots change to yellowish-brown color and necrotic spots begin to form from the edges. Zinc deficient plants have short internodes.

Nitrogenous fertilizer damages the soil, ground water and environment. The synthetic fertilizers must be substituted with natural fertilizers to conserve the environment. Organic fertilizers improve soil structure, soil health, water holding capacity, cation exchange capacity, nutrient uptake efficiency and microbial population.

There are various methods to alleviate zinc deficiency. Zinc fertilizers used as zinc sulfate or Zn-EDTA but their utilization impose an environmental and economical pressure and these fertilizers are converted into insoluble complex forms within 7 days of application. In various areas, intercropping and crop rotation have been used to enhance uptake of zinc by plants. Further methods are conventional breeding, transgenic approaches and genetic engineering. However, these methods are high priced, difficult and time consuming. A superior alternative to all these approaches is the use of zinc solubilizing bacteria.

In this decade, bio-fertilizers proved to be a key element of integrated nutrient management in agriculture. Zinc-solubilizing microorganisms make available zinc from different organic and inorganic pools of total soil zinc and these can be efficiently utilized to enhance zinc availability to plants. However, in the literature, few bacterial species of the genera Acinetobacter, Gluconacetobacter, Bacillus and Pseudomonas have been reported. Zn application alone or in collaboration with the biocontrol agent Pseudomonas aeruginosa notably decreased the invasion of the root knot nematode Meloidogyne javanica in tomato. Species of Meloidogyne are considered as one of the most detrimental nematode pests of sugarcane, reduced the cane yield by 9– 15 t/ha.

There are various mechanisms by which zinc solubilizing microorganisms solubilize zinc and acidification is one of those. In soil, zinc solubilizing microbes yield organic acids which sequester the zinc cation and lower the pH of closely associated soil. The anions can also enhance zinc solubility by chelating zinc. Other mechanisms include yielding of siderophore and proton, chelated ligands and oxido-reductive systems on cell membranes. The solubilization zone for zinc oxide is varied from 16mm to 6mm and maximum solubilization zone showed by isolate ZnSB-3 and minimum solubilization by ZnSB-7.

Zinc solubilizing bio-fertilizers control diseases, activate hormones, enhance crop yield as well as its quality, improve plant growth, raise photosynthetic activity, absorb residues of pesticides and heavy metal, make plant able to tolerate stresses, fulfill the requirement of zinc in the economic part of plant, reduce the use of synthetic zinc fertilizers, improve soil fertility.

Soil may possess sufficient amount of zinc but, in some cases, it may not be accessible to plant because of its fixation. To avoid from this situation, zinc solubilizing bacteria should be used. These microbes provide native zinc to plant to fulfill nutritional gap (zinc deficiency) in human diet as well as saving of additional cost of production. Zinc solubilizing bio-fertilizer also conserves soil fertility and environment.

Source: https://par.com.pk/article/role-of-zinc-solubilizing-bacteria-in-plant-growth-and-human-health

HEALTH BENEFITS OF RAISINS

1) Promote Weight Gain

Raisins help gain weight in a healthy way since they are full of fructose and glucose. They form an ideal part of a diet for athletes or bodybuilders who need a powerful boost of energy, or for those who want to put on weight without accumulating unhealthy amounts of cholesterol.

2) Boost Digestive Health

The fiber in raisins helps sweep out toxins and harmful materials from the digestive tract. This can protect people from intestinal diseases, bacterial growth, and discomfort from bloating.

3) Prevent Cancer

Raisins have high levels of catechins that help fight cancer. Catechins are polyphenolic antioxidants present in the blood, that scavenge the free radicals floating in the body, which are one of the primary underlying factors that lead to the spontaneous growth of cancer cells. The fiber content helps promote excretion of bile from the body, thus flushing out toxins that can cause cancer. Therefore, including these dried fruits in your diet can help prevent cancer, or slow down its progress.

4) Reduce Hypertension

Studies show a positive correlation between reduced hypertension and consumption of raisins. Many of the nutrients packed into them are beneficial, but experts believe that it is the high level of potassium that helps. Potassium is a well-researched mineral that helps reduce the tension of blood vessels and decrease high blood pressure, and the dietary fiber in these dried grapes is also thought to affect the biochemistry of blood vessels and reduce their stiffness, which in turn reduces hypertension.

5) Dental Care

Oleanolic acid, one of the phytochemicals present in raisins, plays a crucial role in protecting your teeth against decay, cavities, and brittleness. It effectively prevents the growth of *Streptococcus mutans* and *Porphyromonas gingivalis*, two of the bacterial species that are most responsible for cavities. As strange as it may sound, while eating the dried fruits, the longer they stick to your teeth, the better, because that ensures an extended contact of oleanolic acid with the teeth, increasing the preventive powers of bacterial growth. In addition, raisins are rich in calcium, which strengthens and demineralizes tooth enamel. Further, boron present in these dried fruits helps curb the growth of oral germs, promoting strong teeth.

6) Heart Health

The high levels of potassium, fiber, polyphenols, phenolic acid, tannins, and antioxidants in raisins stimulate the burning of cholesterol as well as lowers blood pressure, promoting good cardiac health.

7) Control Diabetes

In a number of studies, raisins have been shown to lower the postprandial insulin response, which means they can stabilize the spikes or plunges on the insulin after a meal that can be otherwise dangerous to patients with diabetes. They also help regulate the release of leptin and ghrelin, which are the hormones responsible for telling the body when it is hungry or full. By keeping a check on these hormones, people who eat raisins can improve their chances of maintaining a healthy diet and prevent overeating.

8) Treat Anemia

Raisins contain a considerable amount of iron, which directly helps in the treatment of anemia. It also contains many members of vitamin B complex that are essential for the formation of new blood. The high copper content also helps in the production of red blood cells.

9) Cure Fever

Phenolic phytonutrients, well known for their germicidal, antibiotic, and antioxidant properties, are abundantly present in raisins and can help cure fevers by fighting viral and bacterial infections.

10) Eye Health

Raisins contain antioxidant-rich polyphenolic phytonutrients, which are excellent for ocular health. They protect the eyes from the damage caused by free radicals (oxidants), in the form of macular degeneration, age-related weakening of vision, and cataracts.

Source: www.organicfacts.net

SUCCESS STORY OF MR. MIR JAVED TALPUR

A PROGRESSIVE FARMER

Mir Javed Talpur, resident of Tando Muhammad Khan, Hyderabad Division is a well educated and progressive farmer who managed to take risk and adopted new ways of doing agriculture fruit farm business. Mr. Talpur grew mango, anjeer, guava, grape fruit and lemon on an area of 4 acres, 3 acres, 3 acres, 2 acres and 4 acres respectively and adopted Ultra-High Density Plantation (UHDP). This is a new and proven technology, commonly practiced for mango cultivation worldwide and combined with other sustainable agricultural techniques. It has the potential to yield 200% more produce than that of the traditional method. The ultra-high density mango plantation is a technique which has utilized all the resources optimally and thus, increased the production per unit area as well as raises profit margin of mango farmers. In the conventional planting technique of mango cultivation, it is very difficult to maintain uniformity, but the adoption of new technology called "Ultra-High Density Mango or Meadow Orcharding" planting ensures export quality of mango fruits.

Mr. Talpur said that by using this technology he attained more production per unit area. Mango, so far is being grown either as a crop with least management efforts or without inputs like irrigation, fertigation etc. And it leads to low productivity of mango. It is important to increase the production of mango by adopting the new technology.

Fruit Farm plants per acre and distance is given as below:

S.NO	CROP /FRUIT	PLANTS PER ACRE	DISTANCE
1.	Mango	1000	6×6 ft
2.	Guava	1000	6×6 ft
3.	Lemon	1000	6×6 ft
4.	Grapes	400	7×4
5.	Anjeer	400	7×4

S.NO	FRUIT /CROP	INVESTMENT PER PLANT
1.	Mango	Rs 750
2.	Guava	Rs 100
3.	Lemon	Rs 200
4.	Grapes	Rs 200
5.	Anjeer	Rs 250

The Benefits of Adopting UHDP

Mr. Talpur highlited following benefits of UHDP;

1. It is one time investment and later it reduces the cost of production.
2. It is one time investment and later it reduces the cost of production.
3. Off the season fruit is possible as mango can be planted twice in a year.
4. Continuous vigilance is required to discharge emerging problems.
5. Small farmers with efficient use of money can use this technology.
6. The need based application of water, fertilizer, and pesticides.
7. Change from old models to new ways of doing business, less labor intensive, less toiling and earning quadruple times.

Suggestions for Farmers

Mr. Talpur gave following suggestions to farming community of Pakistan;

- Shift from traditional patterns by accepting change in method and practices of plantation
- Managing plant population and observing change.
- Preparedness against climate patterns.
- Analyze the need of water and cost of production.
- Increase awareness and learning from other experiences.
- Scientific methods, techniques, mechanization need to be adopted.

زرعی سفارشات برائے کسان

حالیہ بارشوں کے پانی کو محفوظ کرنے کے لیے ڈھلوان کی مخالف سمت گہرا ہل چلائیں، کھیتوں کو ہموار رکھیں، وٹ بندی مضبوط کریں اور جڑی بوٹیاں تلف کریں۔ اس مقصد کے لیے دیسی کھاد یا سبز کھاد کا استعمال بھی بڑھایا جا سکتا ہے کیونکہ اس سے وتر زیادہ دیر تک رہ سکتا ہے۔

مکئی

☆ مکئی کی اگیتی اقسام کی کاشت 20 اگست تک مکمل کر لیں، جبکہ بارانی علاقوں میں مون سون کی بارشوں کے مطابق کاشت کریں یاد رہے کہ موسم خزاں میں ہائبرڈ اقسام کا بہترین وقت کاشت وسط اگست ہے۔

☆ ڈرل سے کاشت کی صورت میں 12 سے 15 کلوگرام، کھیلیوں پر کاشت کی صورت میں 8 سے 10 کلوگرام اور بطور چارہ 40 سے 50 کلوگرام بیج فی ایکڑ استعمال کریں۔

☆ مکئی کی بہترین پیداوار کے لیے 3 سے 4 ٹرالی گوبر کی گلی سڑی کھاد زمین کی تیاری کے وقت ضرور ڈالیں۔

کپاس

☆ حالیہ مون سون بارشوں کی وجہ سے جن کھیتوں میں پانی زیادہ کھڑا ہو جائے تو اس کے نکاس کا بروقت انتظام کریں۔ کھیت کے ایک طرف لمبائی کے رخ دو فٹ چوڑی اور چار فٹ گہری کھائی کھود کر پانی جمع کر لیں۔

☆ آبپاشی واٹر سکاؤٹنگ کے بعد کریں یعنی پانی کی کمی کی علامات ظاہر ہونے پر آبپاشی کریں۔ ان علامات میں پتوں کا نیلگوں ہونا، اوپر والی شاخوں کی درمیانی لمبائی میں کمی، سفید پھول کا چوٹی پر آنا، تنے کے اوپر کے حصے کا تیزی سے سرخ ہونا اور چوٹی کے پتوں کا کھردرا ہونا شامل ہے۔

☆ زیادہ درجہ حرارت ہونے اور زیادہ ٹینڈے لگنے کی وجہ سے فصل کا پھل گرنا شروع ہو جاتا ہے۔ اس سے بچاؤ کے لیے نائٹروجنی کھاد کے استعمال کے علاوہ زمین میں جہاں بعد بورون اور زنک کی کمی پائی گئی ہو وہاں بورون اور زنک کا استعمال بذریعہ سپرے کریں۔

☆ اگر کپاس پر علاقائی مناسبت اور بارشوں کی وجہ سے سفید مکھی سبز تیلا، تھرپس اور ملی بگ کا حملہ ہو اور یہ حملہ نقصان کی معاشی حد سے بڑھ رہا ہو تو ہفتے میں دو بار پیسٹ سکاؤٹنگ کریں اور محکمہ زراعت کے مقامی عملہ کے سفارش کردہ زہروں کا سپرے کریں۔

دھان

☆ دھان کی باسمتی اقسام کی پنیری کی منتقلی جلد از جلد مکمل کریں۔

☆ پنیری کی منتقلی کے وقت کھیت میں 2 سے 3 انچ سے زیادہ پانی کھڑا نہ ہو دیں۔

☆ زنک کی زیادہ کمی کی صورت میں لاب لگانے کے 10 دن بعد تک زنک سلفیٹ 33 فصید والا 6 کلوگرام یا زنک سلفیٹ 21 فصید والا 10 کلوگرام فی ایکڑ چھٹہ دیں۔

☆ لاب کی منتقلی کے 35 دن بعد نائٹروجنی کھاد کا بقیہ حصہ ڈالنے سے پہلے 4 سے 5 دن کے لیے فصل کو ہلکا سا سوکا دیں اس کے بعد کھاد کا چھٹہ دیکر پانی لگا دیں۔

☆ ناقص پانی سے سیراب ہونے والی زمینوں میں اچھے نتائج حاصل کرنے کے لیے جپسم بحساب 5 بوری فی ایکڑ چھٹہ دیں۔

سبزیات و باغات

☆ ٹماٹر اور گوبھی کی پنیری کی کاشت جاری رکھیں۔

☆ ٹماٹر کی منظور شدہ اقسام روما، نگینہ، پاکٹ، نقیب اور دوغلی اقسام نادر اور سالار وغیرہ کاشت کریں۔

☆ پھول گوبھی کی منظور شدہ اقسام فیصل آباد نمبر 1، 2، 3 اور 4 وغیرہ کاشت کریں۔

☆ ترشاوہ پھلوں کے پودوں کو نائٹروجن کی تیسری قسط ڈالیں۔

Source: 1) Ziratnama Government of Punjab (Farmer's Advisory)
2) Fauji Fertilizer Company Limited (Farmer's Advisory Service)

MANAGEMENT TIPS

Read the Room Before your Next Meeting

In every conversation at work, there's explicit discussion (the words being spoken out loud) and the tacit one — the things being communicated subtly. It's important to know how to read a room so that you can understand what's not being said. The best way to do this is to pay attention to the people in it. Note who's next to whom, who's relaxed, who's not, who's standing, and who's sitting. Look at their facial expressions, posture, and body language. Does the mood in the room feel tense, or relaxed? Then think about possible reasons for your colleagues' emotional states. What's happening in their lives and jobs? This can be tricky if you don't know the people in the room, but you can still come up with hypotheses. Then check those hypotheses by talking to colleagues in private. You might say something like, "In the meeting I saw you furrow your brow when discussion turned to the big project. How do you feel about it?" Adapted from "Tips for Reading the Room Before a Meeting or Presentation," by Rebecca Knight.

Source: http://www.harvardbusiness.org

Does your Team's Work Style Inconvenient to Remote Employees?

Life on a global team isn't necessarily equitable. Employees far from headquarters often have less access to the team leader, and have to deal with regular inconveniences such as late-night calls because they're in a different time zone. As a manager, it's your job to ensure that remote employees aren't carrying an extra burden. Consider rotating the time of weekly team calls so that everyone takes a turn at having the meeting during regular business hours (or at the very least, find the least inconvenient time for your remote employees to participate.) Even small courtesies can help distant team members feel noticed, such as translating meeting times into all the time zones that your people work in. And schedule periodic offsites for the whole team to get together and connect. If your budget allows, you can even hold these meetings in different locations around the globe. Adapted from "How to Keep a Global Team Engaged," by Andy Molinksy.

Source: http://www.harvardbusiness.org

Make Sure Employees are Working on the Right Tasks

"Unless employees are busy doing the right tasks, the business will suffer. Let intelligent data drive the framework, determining what each employee should focus on to achieve specific tasks." - Manish Sood, Reltio, Inc.

There are seven essentials for effective management and delegation:

1. Pick the right person. Picking the wrong person for a key task is a major reason for failure.
2. Match the requirements of the job to the abilities of the person. Be sure that the person you delegate the task to is capable of doing the job.
3. Delegate effectively to the right person. This frees you to do more things of higher value. The more of your essential tasks that you can teach and delegate to others, the greater the time you will have to do the things that only you can do.
4. Delegate smaller tasks to newer staff to build their confidence and competence.
5. Delegate the entire job. One hundred percent responsibility for a task is a major performance motivator. The more often you assign responsibilities to the right people, the more competent they become.
6. Delegate clear outcomes. Make them measurable. If you can't measure it, you can't manage it. Explain what is to be done, how you think it should be done, and the reasons for doing this job in the first place.

Source: https://www.briantracy.com

NATIONAL NEWS

Fish Production Registers 60,193 tons Increase in Two Decades: Expert

Fish production during last two decade has increased in Pakistan starting from 22,255 tons in 1991 and reaching up to 82,448 tons in 2010. Talking to this scribe, an expert on fisheries sector and environment, Omar Hayat said that during this period highest production, 93,820 tons, was observed in 1994. Both the fish commodities, dried, salted or smoked and frozen excluding fillets and meat, also have increased in their production; however the production of later commodity surpassed during the last five years.

Fiscal Year 2019: ACAC sets Rs 1.25 trillion Target for Agriculture Credit

Agricultural Credit Advisory Committee (ACAC) of State Bank of Pakistan (SBP) has set an agricultural credit disbursement target of Rs 1.25 trillion for Fiscal Year 2019 (FY-19) with a commitment to serve small farmers and underserved areas through innovative agri financing schemes.The SBP Governor Tariq Bajwa urged banks to bring qualitative shift in agricultural financing by adopting innovative techniques for provision of easy and swift credit to small farmers. While chairing the ACAC meeting, Tariq Bajwa said agricultural credit is one of the top priorities of the government. The annual meeting of the ACAC was held for the first time in Muzaffarabad, Azad Jammu & Kashmir as part of the SBP's continued efforts to enhance agri credit in underserved provinces and regions.

Guard to Launch Trial of Country's First Basmati Hybrid Rice Next Year

The Guard Agricultural Research & Services (Guard) is going to launch a large scale trial of country's first "Basmati Hybrid Rice" next year on an area of 500 acres of land. Guard have already introduced seven to eight coarse long grain hybrid rice varieties in the country which are being cultivated successfully in Sindh and farmers are getting financial benefits of it.

Tea Imports Witness 5.36 Percent Growth During Fiscal Year 2017-18

The imports of tea into the country witnessed growth of 5.36 percent during the fiscal year 2017-18 as compared to the last financial year (2016-17), according to Pakistan Bureau of Statistics (PBS). Pakistan imported tea worth $551.881 million during the fiscal year under review against the imports of $523.790 million, the PBS data revealed. In terms of quantity, the tea imports into the country however decreased by 5.91 percent by declining from imports of 194,833 metric tons last year to 183,321 metric tons during the fiscal year 2017-18.

Swat's Fruit Dehydration Unit to Become Operational Soon

The Public Sector Development Programme (PSDP) funded project of Fruit Dehydration Unit, Swat is going to be operational soon. The project of the Ministry of Industries and Production is being executed under the supervision of Small and Medium Enterprises Development Authority (SMEDA) will also be responsible for both operation and maintenance. The objectives of the establishment of a Fruit Dehydration Unit, Swat are to support the fruit growers in product diversification and value addition, introduce modern technology for bulk production of hygienic products and enable the existing marginalized processors to meet the international standards.

PAD Urges Farmers to Transform Potohar into Olive Valley

The Punjab Agriculture Department (PAD) has once again reminded the farmers to apply for establishing olive orchards on scientific lines by August 31, 2018 which will entitle them for getting free of cost olive plants and subsidy on drip irrigation. The provincial government had planned to convert marginal land of Potohar region into productive olive groves. Under a project, Government of Punjab is providing 2 million olive plants free of cost to the farmers.

Rice, Paddy Cultivation Banned

The Government of Sindh has imposed ban on paddy and rice cultivation within the jurisdiction of Khairpur Mir's District for period of 60 days with effect from August 2018. The SHOs of concerned police stations are authorized to register the complaints under Section 188 PPC in writing for the violation of Section 144 Cr. PC against the violators.

PAD to Begin Weed Eradication Drive

The Punjab Agriculture Department (PAD) will start campaign for weed eradication in the first week of August, 2018 to be participated by all the employees of the Department.

The Punjab Agriculture Department (PAD) will set up committees at village level to make the forthcoming weed eradication campaign successful.

Source: www.brecorder.com

ZTBL NEWS

Flag Hoisting Ceremony Held at ZTBL

Flag hoisting ceremony was held at Zarai Taraqiati Bank Limited (ZTBL) Head Office Islamabad on 14th August 2018. It was attended by Bank's Senior Executives, Officers, Employees and their families. To mark 71st Independence Day, guard of honour was presented by Bank's Security Guards followed by playing of National Anthem. Bank's building was also illuminated. EVP/SA to the President, Mr. Waheed Ahmed Khan and other executives of the Bank raised the flag and prayed for prosperity of the country.

Distribution of Free Moringa Plants by ZTBL at Liberty Park Lahore

The Provincial Agriculture Technology Unit ZTBL, Lahore in collaboration with Prof. Dr. Shahzad Maqsood Ahmad Basra (President, Moringa for Life, Pakistan)-University of Agriculture Faisalabad distributed free moringa plants at Liberty Park, Lahore on 13th August 2018. Three thousand moringa plants were distributed free of cost with the aim of creating awareness among people about moringa plant and to encourage citizens towards plantation of the same.

Awareness Programme on FBR's Tax Amnesty Scheme

A team of FBR comprising of Mr. Ahmad Shuja Khan, Commissioner (IR) and Mr. M. Ismail-ur-Rehman (IRO) visited ZTBL Head Office Islamabad and gave presentation to executives of ZTBL about the Tax Amnesty Scheme, 2018 introduced by the Government of Pakistan.

Mr. Mehboob Hussain, CFO and other executives of the Bank attended this meeting where FBR's Tax Amnesty Scheme features were discussed in detail. This was an interactive session wherein different questions & queries about the amnesty scheme were responded to the satisfaction of the participants.

Delegation of NUST Islamabad Visited ZTBL

A delegation of National University of Science and Technology (NUST) Islamabad visited Zarai Taraqiati Bank Limited (ZTBL) on 2nd August, 2018. A preliminary meeting was held between representatives of NUST and ZTBL at ZTBL Head Office Islamabad. Mr. Saeed Ahmed, EVP/Divisional Head Training & Development Division, Mr. Muhammad Rashid, AEVP, Planning and Research Division and other executives of the Bank represented ZTBL in this meeting. The purpose of this round meeting was to look into possibilities of collaboration and cooperation between NUST and ZTBL in matters of common interest to extend and promote development of agriculture sector.