

Whither Hill ORANGES?

NISHA CHETTRI

The scourge that has afflicted the once abundantly-produced juicy oranges in the Hills of Darjeeling and Kalimpong has been growing by the year, even as the so called 'yellow-headed insects' have been transmitting a disease to local orange trees, where a sawdust like thing gathers on the branches, killing them, especially during the fruit-bearing season.

The ever-loved tangy and succulent oranges, which can very well fetch Rs 12-15 per fruit in the market, is on a verge of vanishing in the local fields in Kalimpong and its suburbs. The situation this year was worse, leading the cash crop growers to lament that there were no oranges in the market this season (November-January).

"It has been 3-4 years that the disease has plagued the crop, while the departments concerned have been trying to do their bit, but to no avail," a farmer said in Kalimpong.

Two families in Bong Busty, Tarigaon, very near Kalimpong town, which have been growing oranges for the past several years, rued the lack of fruits this time too. Anita Khanal, a passionate agriculturist, has been growing oranges since 2007, while one tree in her farm bears fruit worth Rs 4000. Khanal has more than 160 trees, but since last year, the trees started getting infected with the 'yellow-headed insects.'

"I, however, managed to make Rs 50,000 this year from fruits from a few trees," she said.

"Last year was good, but this year the fruits started rotting and falling from the trees as they got matures, while the leaves in the trees got all yellowish. The branches are also dying, and we are at a loss as to what exactly is causing them. Earlier, the profit made from oranges during one season was enough to run the entire household for a year, but this year the fruits are so less in number that they are barely enough to eat at home and distribute among friends," Khanal added.

Pankaj Sapkota, who also used to grow oranges, is also all upset and has switched over to farming cardamom as an alternative. Sapkota, who is a learned young farmer, said that the only way to restore the orange glory in the fields is to sow new seeds, which is unsuitable for farmers, as it is a lengthy process that can take up to 7-8 years to bear fruit.

"Farmers cannot wait for 7-8 years for a cash-crop, and maybe that is the reason why

oranges are being forsaken by the farmers now and they are fast switching over to other cash-crops like cardamom, which starts giving returns just after two-three years," Sapkota said.

Sapkota had 85-90 orange trees, which were healthy, and he used to earn around Rs 60-70 thousand a season, which fell over the years.

"The departments concerned also visited our farms to check what was causing the crop to fail, but nothing happened," he said, adding "Global warming could have a part to play here."

"The virus can be cleared, and mix-cropping is also one of the solutions. The best thing to do is plant new saplings, but if the virus is not cleared from the entire region, it makes no point... I alone can't do anything," Sapkota added.

Sapkota, who opts for organic produce, says he did not use chemicals in his effort to rejuvenate the crops. He rather started the Himalayan Organic Product Promotion Society (HOPPS) in the year 2014 for the benefit and promotion of organic produce.

On the other hand, Madhav Chettri, the senior scientific officer at the Research and Development Centre for Horticulture, said that the fall of the 'citrus Darjeeling mandarin' began way back in 1970, and that there are several diseases contributing to the same. "Root/foot tends to rot due to a soil-borne fungus named Phytophthora, while a virus called 'Tristeza' (vascular borne, aphid transmitted) alone may cause typical decline. This virus occurs in different strains, severe, moderate and mild, showing difference in virulence," he said.

However, several other diseases have also contributed to the situation, and the prevalent ones are powdery mildew, scab, shooty mould, red rust, felt and anthracnose, according to Mr Chettri.

"Oranges need a lot of care, and every year a mature tree requires 10 baskets of manure as the lack of nutrients will definitely lead to the tree's ill health. However, the solution is to restore the plants with disease-free nucellar saplings in order to rejuvenate the oranges in the Hills. We need to conduct a proper survey and find out which places need such rejuvenation. And above all, we need more field consultants, as we lack in manpower to function in the entire GTA area," Mr Chettri said, adding that the farmers are also still stuck in the traditional style of farming.

It is also learnt that there is no record or data on mandarins in the hills after 2001.

As the popular orange production dips due to several factors, including pests, farmers in Kalimpong rue their lot and say government intervention has not helped them much



TEAtalk

MANAS R BANNERJEE

Leaf-counting machine awaited

A new technology may end an altercation between small tea growers and bought-leaf factory owners at the beginning of the tea season this year. The Tea Board of India is planning to introduce the fine-leaf counting machine by early February as growers start plucking from 11 February, a day after Saraswati Puja this year. Small tea growers in the Dooars usually start plucking after the puja.

Notably, the Tea Board of India has set a cutoff date of 15 December to stop plucking in West Bengal and has asked planters to resume it from 11 February.

Small growers have, meanwhile, welcomed the Tea Board's decision to introduce the new machine for counting fine leaf to avoid controversy and dispute over fixation of price of green tea leaves on the basis of quality control. Several incidents came up recently, especially from the Terai region, as small growers staged demonstrations by dumping green leaves on highways, demanding minimum support price, like farmers of potato or tomato, as bought-leaf factory owners refused to pay and buy leaf as demanded by the growers. There was also altercation between small growers and factory owners over price fixation as factory owners branded them as inferior quality tea leaf. Such incidents usually happened after the Durga Puja in the Terai region last year. No one can deny the fact that a section of small growers used to supply green leaves by cutting (not following the method of plucking) from bushes as a few growers experimentally started plucking by machines. Tea Board officials had to interfere to minimize conflict between small growers and bought-leaf factory owners and formulated a theory of price fixation. And finally, the Tea Board is now going to introduce fine leaf counting machine, which can also easily determine the quality of green leaves, which will ultimately help the fixation of its price.

As he addressed a recent conference of small scale industrialists at the Siliguri Tea Auction Centre, Chairman of the Tea Board of India, AK Ray, told the audience about the machine. Mr Ray said that experts associated with IIT Kharagpur have almost readied the machine, in association with Tea Research Association, a scientific body, of the Tea Board. The machine will be installed in front of each factory for counting fine leaf. Similarly, director of Tea Development of the Board, S Soundararajan, addressing the ITA Dooars Branch's 141st annual general meeting at Binnaguri, also talked about the new invention and the fine tea leaf counting procedure and benefits of price fixation of green leaves and quality tea leaves. Not only bought-leaf factories, but also some other factories in the organized sector buy green leaves from small growers for manufacturing CTC tea. Small growers are now contributing fifty percent production of tea in the Indian market. President of the Confederation of Indian Small Tea Growers Association (CISTA) Bijay Gopal Chakraborty welcomed such technological advancement that will "bring perfection to the fine leaf counting system." "This system will not only minimize conflict on the issue of fine leaf counting, but also bring in quality green leaf," Mr Chakraborty said.

LEARNING MATHS Importance of Zero

SAMAR CHANDRA DEV

Zero reached Europe

by the middle of the 12th century when Al-Khwarizmi's book was translated into Latin under the title 'Al-khwarizmi on the Numerals of the Indians.' Italian mathematician Leonardo Fibonacci (Ca 1170- Ca 1250 CE) popularised the use of zero in Europe. In 1202, Fibonacci wrote a book Liber Abaci or Abacus book (Book of calculation).



The next great mathematician who used zero in his work was Rene Descartes, the founder of the Cartesian co-ordinate system. As anyone who has had to graph a triangle, or a Parabola knows, Descartes origin is (0,0). Now zero was becoming more familiar. It developed calculus. Sir Issac Newton and GB Leibniz made his final step in understanding zero.

In the 21st century, zero is so common that to talk about it seems like much ado about nothing. The development of zero has made human society easy and comfortable. As maths is a global language, and calculus its crowning achievement, zero exists and is used everywhere.

The importance of zero in mathematics

Zero is important if you think about sets. An empty or void or null set is one which has no element (or member) Example: Set A = {x: x² + 1 = 0, x is a real no. }

The addition property of zero: Whenever Zero is added to a whole number or vice-versa, the sum will be a whole number.

Example: 0 + 3 = 3 + 0 = 3.

The subtraction property: Whenever zero is subtracted from a whole number the difference will be the whole number and whenever a whole number is subtracted from itself, the difference will be zero.

Example: 3 - 0 = 3; 3 - 3 = 0;

The multiplication property: It is a little like addition property in that it does not matter in what order you do the operation to the whole number. Thus, a whole number multiplied by zero is equal to zero and vice-versa.

Example: 0 x 3 = 3 x 0 = 0.

Zero is very important for its place-holding value. If you have a number like three hundred five, how do you write it so, that you understand that there are no tens in the number. You cannot write it as 35 because it is a totally different number (Two-digits-number).

One neat thing when dealing with powers of 10: 10 squared = 10² = 100, observe the exponent (or power or indices) 2 shows how many zeros will be in the written form of the number. When you round numbers like 5342 the nearest the, you place a zero in the unit place and round to the nearest hundred that equals 5000.

The division property of zero is interesting. If zero is divided by a whole number, the quotient will be zero. But if a whole number is divided by zero then you cannot come up with an inverse statement that makes sense. Let x be a number then x/0 is called infinity.

Suppose, x,y are any two real numbers in such way that we get a unique number and x = py? x/y = p, where x is called dividend, y is called divisor and p is called quotient then we can write, **Dividend=Divisor x Quotient**

(To be concluded)

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SAFEGUARDING ANIMAL RIGHTS IN INDIA

MAMTA THAPA

The relationship between human and animals, whether based on companionship, work, or simple nutrition, are some of life's most rewarding and character-building interactions. Pet ownership has always been a wonderful institution for both man and animals. Today, when there is hue and cry for human rights in India, we tend to forget that the country has some of the finest provisions to safeguard animals in the world. Many animals suffer from harsh cruelties as humans don't understand that animals have rights too. The Indian Constitution under Article 51A (g) has duty-bound every citizen

to be compassionate towards all living creatures, whereas section 428 and 429 of the IPC have declared killing or maiming any animal, including stray animals, as punishable offence. In addition to it, the parliament of India has also enacted a law under the name of Prevention of Cruelty to Animals Act 1960 to prevent the infliction of unnecessary pain or suffering on animals. It states that acts like abandoning, neglecting, not providing an animal with sufficient food, water, shelter and exercise or keeping them chained, confining them for long hours or organizing or making animals participate in any animal fights or even using or training them for

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entertainment purposes in circuses or streets are cognizable offences under section 11 and may lead to punishment of imprisonment upto 3 months along with fine.

The Wildlife protection Act, 1972 is another well framed act in this regard. It not only protects but also prohibits

display or ownership of animals, including teasing, feeding or disturbing them in zoo, along with littering the zoo or even capturing, trapping, poisoning or baiting any wild animal. Rule 3 of the Prevention of cruelty to animals, (slaughter house) Rules, 2001, along with chapter 4, Food Safety and

Standards Regulations, 2011 clearly states that no animal (including chickens) can be slaughtered in any place other than a slaughterhouse. It also put restrictions on slaughtering of sick or pregnant animals. The slaughterhouse Rules 2001 clearly says that animal sacrifice is illegal in every part of the country. In fact, as per The Animal Birth Control Rules 2001, stray dogs that have been operated for birth control cannot be captured or relocated by anybody including any authority, whereas the Rules 148-C and 135-B of Drugs & Cosmetics Rules, 1945 prohibits the cosmetics tested on animals and also the imports of cosmetics tested on animals.

Despite having legislation in favour of animals, we are not able to protect and comfort them because of the societal attitude. People are still involved in torturing animals, giving them discomfort, pain or suffering. The need of the hour is not to have more laws but to generate awareness and the government should ensure that the animal organizations must have the working ability to reach out to certain areas where animals are being harmed and abused as the moral progress of a nation can be judged by the way its animals are treated.

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Helping local talents grow

BINITA PAUL

The 16th edition of the annual event, 'Himalaya Sundari and Mr Himalaya,' was a glittering event in Siliguri on 23 January, with Prena Jaiswal (Siliguri) and Pushpam Kashyap (Bihar) walking away with the top prizes in the finale that evening.

The programme, organised by the Uttam Kumar Film Institute and Miracle Dance School, in association with The Statesman and Soubhagya Palace, is a one-of-its-kind effort that brings in budding models from all over the state and nearby areas and gives them a great platform to further their career in the field of modeling and entertainment.

As the results were announced after a dazzling show of music and dance, Sanghita Chandra from Jalpaiguri and Meenakshi Mohanty from Purulia were adjudged the 1st and 2nd runners up, respectively, in the women's group, while Rahul Pandey from Bagdogra and Abhinash Khandka from Banarhat, who chosen for the 1st and 2nd runners-up awards, respectively, in the men's section.

The pageant also had prizes in special categories, including the Miss Photogenic Award, which was bagged by Sushmita Paul.

"The event held annually in Siliguri has grabbed the attention of many people in this field and has brought to limelight some popular faces in the world of fashion and fitness, while also promoting many new faces, from Siliguri as well as other areas nearby," a member of the organizing team said.

"The idea is to look for young and budding models and some new faces with a fit and healthy mind and body, which will set a new example for all," said Suvendu Das, the secretary of the

event organizing team.

Dr RK Agarwal chaired the event, along with Colonel (Rtd) RK Bali, and the directors of the event, Proloy Dutta and Himansu Dev Sharma.

After an initial selection process, the participants were scrutinised through some auditions, and models had to go through several rounds before they are selected for the final event. Twenty of the 156 participants, who had made it to the final round, fought to prove their mettle in the final event. The auditions were held on 13 January in Siliguri and 7 January in Kolkata.

The judges for the final event were Col Bali, Parimal Sarkar, a national judge from the bodybuilding association, Goutam Halder, a producer from Singur; and Debi Dey, a dress designer, and two from a local media house.

"The finals of the Himalaya Sundari and Mr Himalaya have always been a big affair. From the bright and bold lights to ramp walks, the ambience took everyone present there to a different world," organizers said. The programme was followed by several rocking dance performances by the Sanchita Chakraborty dance troop, and songs were sung by Sraboni Mahanta. Dynamic models from Kolkata, Rikthee Dey, Kuheli Chakraborty, Soma Pandey, Riya Sarkar, Nabanita Biswas, Diya Roy, Bimalendu Das and Avinash, were bubbling with enthusiasm and they stole the hearts of many during the programme. The choreographer and the assistant choreographer for the event were Clement Sanjib Chatterjee from Kolkata and Aly Ansari, respectively. Candidates participating in the event came from different places like Sikkim, Assam, Kolkata, Purulia, Bihar, Dooars, Jalpaiguri, Alipurduar, and Nepal.

