

In this issue

E-market Experience

The Karnataka chapter

The introduction of e-commerce has made shopping easier. Now, a huge fraction of the urban population orders things ranging from food to gadgets through online portals, from the comfort of their homes. To bring this ease to agricultural trading and make the exercise less cumbersome for farmers, the Government of India introduced the electronic National Agricultural Markets (eNAM) in 2016.

A central platform like eNAM removes information asymmetry and multiple fees levied on farmers. The new scheme also ensures better and timely returns for farmers and, at the same time, makes money transactions more transparent. However, the scheme will be successful only if it is embraced in huge numbers by farmers as well as buyers. In case the platform is not attractive to buyers, the entire exercise can fall apart.

In a General Article in this issue, Amarender Reddy from the National Institute of Agricultural Extension Management, Hyderabad outlines the idea behind eNAMS, the benefits of using it and the hurdles blocking its mass adoption. The article also shines the spotlight on the e-mandi scheme introduced in Karnataka, which is among the first few states to adopt eNAM. More on **page 826**.

The Halogen Challenge

Iodine and fluoride disorders

After it was realized that iodine deficiency causes goiter, the government launched a movement to enrich salt with iodine (15 ppm iodine in salt) under the National Goiter Control Program. Ideally, this should have eliminated goiter cases in the country. Yet there are reports of goiter prevalence in people with adequate iodine levels in the body. Interestingly, most of these cases are from fluoride-endemic areas where people are consuming excess fluoride either by way of water or food.

Fluorine belongs to the same class of chemicals as iodine. However, consuming fluoride in excess leads to fluorosis. Earlier, fluoride toxicity was thought to affect teeth and bones causing discoloured tooth enamel, in case of dental fluorosis or stiff limbs, in the case of skeletal fluorosis. But, latest research shows that excess fluoride can affect the body in multiple ways. In this context, Susheela, from the Fluorosis Foundation of India, Delhi presents a review article on **page 860**, putting in perspective the link between fluorosis and goiter.

Because excess fluoride can damage the thyroid gland, it can create a deficiency of thyroid hormones (FT3 and FT4) even when sufficient iodine is present in the body – a possibility that has eluded discussion in India until now. The need to have a dialogue on this issue is even more because a deficiency of thyroid hormones can cause a spectrum of disorders including mental retardation, psychomotor defects and still births besides goiter.

Anatomy of an Accident

Snow avalanche, 5 January

On **page 969** in this issue, scientists from the Snow and Avalanche Study Establishment, Chandigarh, resolve the accident of a car parked on the Chowkibal–Tangdhar road in the Tangdhar region of Jammu and Kashmir. The car was awaiting snow clearance ahead, when around 2:30 pm on 5 January, an avalanche hit the car, sweeping it in a cloud of snow. Of the 12 people caught in the accident, only 2 could be rescued alive. Later that day, a Border Roads Organisation vehicle was also hit by an avalanche on the same road.

As is evident, this road is prone to avalanches and is hit with approximately 33 avalanches per year according to records gathered during the past 20 years.

Avalanches are rolling clouds of snow that race down a mountain slope due to increased instability at

the top. This usually happens when there is high-pressure build-up due to fresh snowfall over improperly formed snow layers. Now, scientists have used weather data to simulate the flow parameters of an avalanche. They use the model to examine the nature and cause of the car accident. More in a Research Communication.

Cotton Chronicles

Mapping cotton yield

More than half of both women's and men's clothing contain some kind of cotton fibre, either alone or in combination with man-made fibres. It comes as no surprise then that cotton is grown in 85 countries all over the world. An important factor that affects cotton yield is irrigation. About 70–90% of the crop is made up of water, and when water is scarce, plant growth is affected. There is stunting and reduction in leaf area – both signs of water stress.

Many small landholders depend on monsoon to irrigate their fields. And departures in seasonal rainfall affect the quality of the crop. To a large extent, these could be mitigated through alternate means of irrigation. But both the time and stage of irrigation can make a difference. On **page 948** in a Research Communication, a team of scientists from Delhi and Haryana shows how irrigation during different stages of the cotton crop can impact productivity for cotton production in Hisar, Haryana.

Depending on extensive field tests conducted over the past two years, scientists simulated the yield of three cotton crop varieties widely grown in Hisar and compared this with actual data from the region. Scientists believe that such endeavours can help farmers choose the best variety most suited to their farms and also ensure better management practices to improve crop yield.

Sarah Iqbal

e-mail: sarah.iqbalv@gmail.com