

The AgBioIndia Bulletin

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We have always remained baffled at the way modern plant scientists hate weeds. We wonder why they refuse to learn from the natural processes that have always given the weeds its due importance. Perhaps in the undue haste to bring in monocropping, scientists were keen to get the weeds out of sight.

The report below peeps into the tribal wisdom pertaining to the hitherto unknown utility of lowly weeds. We hope our readers will provide us more insight into the importance of weeds in the days to come.

But before that, a heartening news about the falling pesticides use in the central Luzon province in the Philippines. This has a positive impact on rice yields with the productivity and production actually going up. Isn't it a time agricultural scientists were to learn a lesson in crop improvement without pesticides?

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NOTICE BOARD

Luzon rice farmers go clean and green

Research reveals that rice growers in central Luzon in the Philippines use less insecticide than farmers in other major rice-growing regions in Asia. Compared to the situation in many other Asian rice bowls, where the use of insecticides and other chemicals remains high or is even increasing, insecticide use by rice growers in central Luzon has been falling since the late 1980s.

The trend has been confirmed in surveys by both the Philippine Rice Research Institute (PhilRice) and IRRI. The research revealed that insecticide use by farmers in central Luzon, which peaked in the mid-1980s, is now at an historic low, though some farmers still use insecticides as a last resort to prevent serious crop loss. The research also shows that herbicide use peaked in the early 1990s and has slowly declined since then. Farmers continue to use herbicides more often than insecticides.

Particularly encouraging is the survey finding that, despite the steep decline in insecticide use, rice farmers in the region were able to increase their yields over the same period, seeing them rise from an average of 2.75 tons to close to 3.25 tons per hectare by 2002. "This result is testimony to the success and hard work of PhilRice and the other groups in

the Philippines, who over many years have been promoting the use of integrated pest management," commented IRRI Director General Ronald Cantrell.

[Source: IRRI HOTLINE; Vol. 13 No. 1, March 2003]

2. Weed wise or weed savvy? <http://www.teriin.org/terragreen/issue33/feature.htm#f1>

By Aakanksha Kumar

What do farmers in Chhattisgarh do when they suffer an injury or develop a toothache or are bitten by a scorpion or need to keep snakes at bay? They scout the nearby rice fields for specific medicinal weeds. In most cases, this emergency treatment - a commonly followed traditional legacy – does wonders in getting rid of the affliction, a reality many urbanites may scoff at.

Untapped green wealth

But if the demand study for selected medicinal plants 2001/02, commissioned by the Department of Indian Systems of Medicine and Homeopathy, Ministry of Health and Family Welfare, and the World Health Organization is to be believed, Raipur district of Chhattisgarh is indeed a major procurement centre of these plants in India. Dig deeper into the layers of this procurement process and you are hit by the ignorance of the very collectors about the value of the plants collected by them.

There is another facet to this harsh reality. The lush green rice fields of Chhattisgarh may comprise the rice bowl of east India but few urbanites are aware of the abundant medicinal wealth available in the rice fields. On this ignorance of collectors and potential users, the trade of these so-called 'nuisance plants' or 'weeds' continues to thrive in the Indian and the overseas markets; it is lucrative business indeed.

To a layperson, the term 'weed' connotes a good-for-nothing, unproductive plant, which competes with crops for water and nutrients. In the process, it can reduce crop yields by nearly 30%. Ask any Ayurveda specialist or pharmacologist, and they will beg to differ. 'It is our ignorance that has classified plants as useful and unwanted,' says Dr P Oudhia, a herb expert, who has done extensive research on weeds. And this when India has extensively documented these plants in the ancient Ayurveda system of Indian medicine. Just as beauty lies in the eye of the beholder, depending on how one looks at it, the same plant can be labelled a weed or a valuable herb!

Need of the hour

Documenting valuable knowledge on medicinal weeds Identifying and promoting specific weed species in villages Establishing proper linkages at various levels: local, national, and

international Developing international standards for grading and processing of weeds. Researchers like Dr Oudhia and his colleagues are making efforts to survey and list out the useful 'weeds' found in fields of rice and other crops. Their efforts may serve to found the realization that 'here is a source that cannot only wipe out ailments but also pour in money'.

'I found more than 50 weed species infesting the rice fields of Chhattisgarh, of which more than 25 are routinely used by farmers to solve their health problems. Of the 21 weed species found in the chickpea fields, 18 possess valuable medicinal properties. Similarly, 42 different weeds were found in groundnut fields and the medicinal properties of 37 have been found to be well documented in ancient literature,' says Dr Oudhia.

Here are the names and uses of some common 'weeds', as enumerated by Dr Oudhia.

Species Usage

Spillanthus acmela: Chewing its fruit relieves toothache.

Caesulia axillaries: Applying its fresh juice stops bleeding.

Ocimum basilicum: Applying its paste gets rid of headaches.

Achyranthes aspera: Its crushed leaves serve as an antidote to scorpion poison.

Leucas aspera: Its fresh juice serves as an antidote to snake poison

Scoparia dulcis: Its decoction prevents sunstroke.

Cucumis trigonus: Eating its mature fruit cures indigestion

The cure and lure story takes an ugly turn when the very goldmine that is being so diligently explored faces the axe of ignorance. In their over-enthusiasm to get rid of the unwanted plants, farmers are pumping herbicides in quantities far greater than required. So, what is the way out? 'A good strategy would be to educate the farmers on the importance and the selling potential of these plants and boost this realization with the establishment of an assured market,' opines Dr Oudhia.

At the moment, it is the middleman who collects the valuable weeds from the farmers at throwaway prices and sells it across to industries situated near the villages. By the time the weeds reach the national market, the price is jacked up further, and touches greater heights in the international market. Ironically, the demand study estimates that the value of this domestic trade, built on ignorance, is to the tune of 10991.8 millions rupees.

'My survey revealed that the local drug retailers are exporting some weeds and their parts to other countries for medicinal and industrial utilization. If we increase supply of these medicinal weeds to retailers, not only can we reduce the so-called weed menace, but also recover the cost of manual weeding,' says Dr Oudhia. Besides, as the processed

form of the weed fetches a better price than crude extracts, there is an urgent need to develop standards and norms to reap maximum benefits.

A lesson to learn

Jeevak (who later became a great Ayurveda exponent) and his friends, on completion of their training, were asked by their guru to find a plant that had no use. One by one, his friends returned from the forest with a plant. By sunset, all were back except Jeevak. On the third day, Jeevak walked back, tired, unshaven, and unfed. Falling on his guru's feet, he said, 'Sir, I could not fulfil your simple command. Even after three days of untiring toil, I could not find a single plant that is useless in the vast forest.' The guru embraced Jeevak and said, 'You alone have understood that nothing in God's creation is useless. My son, I have nothing more to teach you. Go, and serve mankind.'

And what a benefit it will be! The medicinal world market is estimated at 3 000 000 millions rupees. India has again missed the boat in this sector; China has taken the lead by contributing 40% of the requirement. The Indian share is pegged at 20% (about 4000 millions rupees), and much depends on how we augment its share.

This is only possible if cultivation of the herbs is taken up on a large scale. About 100-odd

plants continue to be collected from the wild, despite the availability of advanced technologies for cultivation. It is imperative to encourage farmers to take up cultivation of these medicinal plants as an economically viable activity.

The survey underpins the presence of pesticide and chemical residues and lack of proper standardization and testing procedures as the major problems with the Indian herbs sector. The latter often catalyses the flooding of the market with 'spurious material' while the concept of weed utilization is innovative, eco-friendly, and income-generating. A collated effort by the government, NGOs, and local communities can morph it into a reality. Any takers?

The AgBioIndia bulletins are an effort by the Forum for Biotechnology & Food Security to bridge the yawning gap in our understanding of the politics of food. We believe these bulletins will create wider awareness and understanding of the complexities of the crisis facing Indian agriculture and food security. We will keep you posted on the intricacies and games being enacted in the name of eradicating hunger.

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