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'Kodo millet helps keep diabetes under check'

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VADODARA: Kodo millet (kodri), the wild cereal, has medicinal properties that can help diabetics and even the obese.

Research by professor M Daniel, former head of M S University's botany department, has revealed kodri, which yields white-husked grain, has a number of medicinal properties (including anti-diabetic and anti-rheumatic attributes), helps heal wounds and has a tranquilizing effect.

Kodri, which is cooked as rice, is cultivated in many countries for its grain and for fodder. In India, it is largely grown in parts of Gujarat, Maharashtra, Madhya Pradesh, Andhra Pradesh, Tamil Nadu, Odisha and Bihar.

"Since ancient times kodri is consumed as a food by diabetic patients, since traditionally it was believed it reduces sugar level," professor Daniel, who initiated the study at MSU and completed it at Dr Daniel's Laboratory, told TOI. "Recent experiments proved aqueous and ethanolic extracts of this grain produced a dose-dependent fall in fasting blood glucose (FBG) and a significant increase in serum insulin level. But the compounds responsible for reduction of sugar level were not known so far."

Through the research, the professor has isolated five anti-diabetic compounds — quercetin (the major one), ferulic acid, p-hydroxybenzoic acid, vanillic acid and syringic acid — from kodri and one chemical (quercetin) that prevents obesity.

"The alcoholic extract of kodri, which is responsible for the anti-diabetic property, is found to possess anti-diabetic compounds such as quercetin (a flavonol) and phenolic acids like vanillic acid, syringic acid, cis-ferulic acid, p-hydroxybenzoic acid and melilotic acid," he said. "The data on the phytochemicals of kodri substantiates the anti-diabetic property exhibited by this grain. Also, the presence of phospholipids, fibre contents and low oil content ... makes this grain a true nutraceutical."

The professor said kodri cultivation should be promoted in the country since unlike other cereals it grows even in gravelly or stony soils. "Kodri is also extremely drought- and salt-resistant and can be cultivated in saline areas and non-irrigational lands as well," he said.