

Successful completion of all steps of organic cultivation of Saffron (*Kesar*) in Sikkim: A Sikkim University Initiative

Saffron (*Kesar*), one of the costliest spices in the world, is cultivated in India exclusively in Kashmir. Sikkim Central University, Gangtok initiated efforts to explore the possibility of Saffron cultivation in Sikkim in 2020 at its campus at Yangang in collaboration with NECTAR, New Delhi. The findings were presented in a Webinar organised by NITI Aayog in association with Indian Himalayan Central Universities Consortium (IHCUC) on 25 June 2021, which drew attention of the participating experts. The Director, Agriculture, Kashmir, Dr. Chowdhary Mohd. Iqbal, in particular, whole heartedly appreciated the initiative and offered his support to Sikkim University for the feasibility of saffron cultivation in Sikkim.

Vice- Chancellor Prof. Avinash Khare and a team of researchers from Sikkim University held several online meetings with the Director, Agriculture Department, Kashmir and several saffron experts to discuss diverse aspects of saffron cultivation. Subsequently, a team from Sikkim University visited Kashmir in the first week of September 2021 to gain understanding of saffron cultivation practices through visits to several farms and the centre of excellence for Saffron in Kashmir and elaborate interactions with the farmers. The saffron corms of high quality, recommended by the experts, were air lifted to Sikkim. Later, in the month of September 2021, two farmers from Kashmir, Mr. Abdul Majeed Wani and Mr. Javid Ganie visited Sikkim to help the University for on-site feasibility assessment and method demonstration on field preparation and planting.

Based on survey of several high altitude locations taking into account the climatic and soil conditions required for saffron cultivation, nine sites were selected in consultation with saffron experts from Kashmir for conducting the cultivation trials in 2021. These include Hilley, Okhrey, Yuksom, Lamathang, Pangthang, Simik-Khamdong, Kyonglasla, Phadamchen and Dzongu where trials are being conducted. In the first year (2021), nearly eighty percent of the saffron corms sprouted followed by successful flowering. The saffron samples from Sikkim were analysed for the chemical components (crocin, picrocrocin, safranal) at Kashmir laboratory (India International Kashmir Saffron Trading Centre; IIKSTC) that were found to be at par with those of Kashmir saffron. The first year performance was quite satisfactory and highly encouraging. However, there were two challenges to be addressed before saffron cultivation in Sikkim could be considered completely successful. First, the corm multiplication and second, subsequent flowering from the corms multiplied from the mother corms in Sikkim itself that requires a certain period of low temperature exposure. The Sikkim University team closely monitored the ongoing trials. It is quite satisfying that corm multiplication occurred at all the trial locations; the corms developed are quite healthy and robust that sprouted well. Finally, the flowering has started that is an unequivocal scientific proof that all the requirements for saffron cultivation in selected trial sites of Sikkim have been fulfilled and the adopted agro management practices are appropriate. Sikkim University will continue the efforts to optimise location specific refinements in the cultivation techniques. Under the leadership of Vice Chancellor Prof. Avinash Khare, seven faculty members of the University- Prof. Shanti S. Sharma, Prof. Dhani R. Chhetri, Dr. Santosh K. Rai, Dr. Arun Chettri (Botany Department) and

Prof. Laxuman Sharma, Prof. Niladri Bag, Dr. Rajesh Kumar (Horticulture Department), are working on the project that has been exclusively funded by the Sikkim University.

On 12th July, 2022, a tripartite agreement was signed among Sikkim University, Horticulture Department, Government of Sikkim and Agriculture & Farmers Welfare Department, Government of Jammu & Kashmir (UT) at a high-level meeting graced by the Hon'ble Governor of Sikkim, Shri Ganga Prasad and Hon'ble Lt Governor of the Union Territory of Jammu & Kashmir, Shri Manoj Sinha at Civil Secretariat, Srinagar. Hon'ble Minister, Agriculture and Horticulture, Government of Sikkim Shri Lok Nath Sharma, Vice-Chancellor, Sikkim University, Prof. Avinash Khare, Chief Secretary, J & K UT, Dr. AK Mehta, SU faculty members, officials of Agriculture Department, J&K UT and Horticulture Department, Govt. of Sikkim were also present.

In the meantime, on the basis of Sikkim University efforts and in view of tripartite agreement, saffron cultivation has been expanded this year (2022) to several areas of the state involving a large number of farmers by the Horticulture Department, Government of Sikkim with constant support from the Governor, Chief Minister, Agriculture Minister, Government of Sikkim and Vice Chancellor, Sikkim University. Eventually, saffron cultivation in Sikkim will be commercially viable as indicated from the feedback received from the farmers participating in the trials who already took it to the market. This will add to the productivity of the state as well as welfare of the farmer community at large.



1st year (2021) flowering in Sikkim from corms procured



Corms multiplication in Sikkim



2nd year (2022) flowering from corms multiplied in Sikkim