

STUDIES ON THE SCOPE OF IMPROVEMENT FOR QUALITY

PARAMETERS IN POTATO (*solanum tuberosum* L)

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ABSTRACT

In the present investigation, twenty three potato genotypes were collected from AICRP on Potato, BCKV centre evaluated in winter season for two consecutive years (2009-2010, 2010-2011) at seed production farm Adisaptagram, Govt of West Bengal situated in district Hooghly, West Bengal. The quality traits on seed shape, seed size, colour, eye depth, tuber flesh, time taken for cooking, easiness for peeling of cooked tuber, softness and dryness of cooked tuber, colour of cooked tuber, protein and starch content, processing qualities like chip colour, dry matter content of tuber and reducing sugar content of tuber were considered in evaluation trial through field and laboratory experiment. Highest dry matter content in tuber was found in K. Sutlej followed by K. Chipsona-1 and MS-1/4906. Cooked flesh of K. Sutlej had found to be mealy. Tubers were useful for processing purpose for preparation of 'French Fries'. The variety K. Chipsona-2 showed highest protein content. The lowest protein content was recorded in the variety K. Jawahar. Regarding starch content, the variety K. chipsona-2 had the highest value followed by K. chipsona-1. The low reducing sugar content and low total sugar content in the varieties were K. Chipsona-1, and K. Chipsona-2 which are desirable for chip and crisp production in potato. The flavor of K. Chipsona-1 and K. Chipsona-2 were found to be very good and are suitable for cooking in steamed water and favored by consumer for the fragrance. The other genotypes like K. Jyoti, K. Puskar, K. Sadabahar, K. Jawahar and K. Bahar might be considered as promising for processing as well as cooking purposes as it had oval round tubers with medium depth eyes. Accepted chip colour and consistency were recorded in J-99/243, J-95/227, K. Chandramukhi, K. Chipsona-1, K. Chipsona-2, K. Jyoti observed significant variation from these quality characters potato genotypes. The early maturing varieties as identified in the evaluation were K. J-99/243, K. Khyati, K. Chipsona-1, K. Chipsona-2, K. K22, K. Ashoka, MS-1/4906 and these can be cultivated to obtain good tuber yield at the earliest of the cropping season.

KEYWORDS: Potato, Total Sugar Content, Reducing Sugar Content, Protein Content