INTERRGATED MANAGEMENT OF POTATO DEFOLIATING CATERPILLAR


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Since one and a half decades, potato crop has occupied many new areas in different regions of Gujarat state. The crops affected badly by leaf eating caterpillar (Heliothis sp.) for the last few years and appearing moderate to an epidemic form causing huge damage. In the later stage of the crop, it is found deteriorating the quality by engraving the tubers also. Hence, an experiment was conducted with an integrated approach for three years (2002-03 to 2004-05) at Deesa. Four major sets of treatments were applied to determine efficient IPM module among which treatment with Chloropyrifos EC @ 0.5 Kg a.i./ha at earthing up, foliar spray with Bt (60 days), foliar spray with Imidacloprid @ 0.04 kg a.i./ha (75 days) and foliar spray with Nimbicidine @ 0.4% (90 days) recorded minimum foliage and tuber damage as well as maximum number of healthy tubers (360 tubers/6 m²), healthy (26.89 q/ha) and total tuber yield (31.72 q/ha) with 22.94 per cent yield increase over untreated control. On the basis of weekly observations recorded, it was found that the caterpillar is appearing in the third week of December and then peaks in fourth week of January. Hence, the management tactics may be followed in the third or fourth week of December for Gujarat conditions as Chloropyrifos EC @ 0.5 kg a.i./ha at earthing up should be applied and foliar sprays are to be scheduled as Bt @ 10⁹ spore count at 60 days, Imidacloprid @ 0.04 kg a.i./ha at 75 days and Nimbicidine at 90 days of the crop period which enable to keep the foliar defoliator population under control.

POST HARVEST PHYSICAL QUALITIES OF POTATO CULTIVARS AS INFLUENCED BY STORAGE CONDITIONS

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The studies were conducted at Dharwad during 1999-2000 to assess the influence of different storage condition on post harvest physical qualities of potatoes. The study indicated that the tubers stored under zero energy cool chamber (ZECC) maintained significantly lower physiological loss in weight (PLW 8.54%) and percent tuber rotting after four months of ZECC storage compared 14.00 percent PLW under ambient condition. Among the varieties PLW% after four months was lower (7.75%) in cv. Kufri Chandramukhi and higher (14.46%) in cv. Kufri Sutlej. The storage condition, variety and period interaction was significant for PLW(%). Lower cumulative PLW (%) after four months under ZECC and ambient condition were recorded in cv. Kufri Chandramukhi, (6.83 and 8.67% respectively) where as cv. Kufri Sutlej recorded higher values (11.25 and 11.67% respectively). The lower PLW (%) in ZECC stored tubers was due to low transpiration and respiration rate because of low temperature and with humidity inside ZECC It is known that PLW more than 10 per cent makes potato unmarketable due to unattractive and shriveled appearance. PLW of tubers under ZECC in present study was well below this limit.