

Research note :

Potential of snails as crop pests in Northern dry zone of Karnataka

R. A. BALIKAI

University of Agricultural Sciences, Dharwad, Regional Agril. Research Station, BIJAPUR (KARNATAKA) INDIA

ABSTRACT

Snails are soft bodied animals belonging to the class Gastropoda of the phylum Mollusca. Their body is asymmetrical, spirally coiled and enclosed in a shell. They appear as sporadic pests and feed at night in damp places and destroy young shoots and roots of various plants. Under dry conditions their population gets reduced considerably. In the Northern dry zone of Karnataka where the annual rainfall is less, the snails usually do not out number. Only during the exceptional years like 1998 when the annual rainfall was exceptionally high (1006 mm), their number increased and became real menace to the crop plants as they fed voraciously. The heavy incidence of snail, *Cryptozonia semirugata* (Beck) was recorded during September-October 1998. The information on the destructive potential of this pest on horticultural crops is scanty. Therefore, the studies were undertaken to assess the damage potential of this pest in selected horticultural crops. Results on the damage potential of snail indicated that the nature of damage caused by this pest was diverse. Small leaves of various plants were completely devoured, while larger leaves were eaten from around the edges. Further in the case of Marigold, Potato and Tomato, small branches were cut and found hanging from the plant in addition to their feeding on the leaves. The per cent plant damage varied from minimum of 4.3 in Clerodendron to a maximum of 95.3 in Palak. Maximum number of plants were damaged in Palak (95.3%), Brinjal (90.2%), Methi (90.1%), Ridge gourd (82.3%) and Chillies (80.2%). The leaf area consumption was highest on Palak followed by Brinjal, Methi and Ridge gourd. Thus Palak, Brinjal, Methi, Ridge gourd, Tomato, Potato, Chillies and Marigold were preferred by this snail, while Hibiscus and Clerodendron were least preferred. Thus, during the years of high rainfall when continuous drizzling and cloudy weather prevails, the management of this pest becomes very much essential.

Key words : Snail, *Cryptozonia semirugata*, Damage potential, Horticultural crops.

INTRODUCTION

Snails are soft bodied animals belonging to the class Gastropoda of the phylum Mollusca. Their body is asymmetrical, spirally coiled and enclosed in a shell. They appear as sporadic pests and feed at night in damp places and destroy young shoots and roots of various plants (Efferson, 1968; Fenwick, 1970; Shiff *et al.*, 1973 and Balikai, 1999). Under dry conditions their population gets reduced considerably.

In the Northern dry zone of Karnataka where the annual rainfall is less, the snails usually do not out number. Only during the exceptional years like 1998 when the rainfall was exceptionally high their number increased and became real menace to the crop plants as they fed voraciously. The heavy incidence of snail, *Cryptozonia semirugata* (Beck) was recorded during September-October 1998. The information on the destructive potential of this pest on horticultural crops is scanty. However, Giraddi *et al.* (1996) reported 30.6 and 25.4% damage to chilli and okra seedlings, respectively. Reddy and Puttaswamy (1984) recorded it as an occasional pest of chilli seedlings in the nursery. Therefore, the studies were

undertaken to assess the damage potential of this pest in selected horticultural crops.

MATERIALS AND METHODS

Early morning the snails present in 100 square meter area were counted in three spots in the month of September and October depending on the continuous rainy days. The peak population count has been considered for reporting. The damage potential was worked out in percentage by scoring the number of snail damaged plants. Extent of damage to each crop plant was assessed by recording the leaf area consumed by the snails and expressed as percentage. All observations were recorded when the snail population was at its peak, that is 21 days after first appearance of the snails in the garden area.

RESULTS AND DISCUSSION

During the year 1998 as high as 1006 mm of annual rainfall was received which was second highest in the century and thus recorded highest population of 257.2 snails/100 square meter area. While the succeeding seven years recorded negligible population as the rain fall