WETZSTEIN, HAZEL Y.^{1*}, and CHRIS H. BORNMAN², ¹University of Georgia, Department of Horticulture, Athens, GA 30602, USA and ²Hilleshög AB, Box 302, S-261 23 Landskrona, Sweden. - Floral organogenesis in fertile and male sterile sugar beet.

Detailed accounts of the process of floral organogenesis in sugar beet are lacking. The objective of this study was to describe floral development using light and scanning electron microscopy. Comparisons were made of fertile and cytoplasmically male sterile genotypes. Inflorescences in sugar beet are paniculate spikes. Following vernalization, there is a broad flattening of the apex and the initiation of bract primordia. Flowers develop acropetally in an indeterminate fashion and laterally flank the inflorescence axis. Flowers are perfect, apetalous, bracted, with 5 sepals, 5 stamens and usually 3 carpels. Flowering is protandrous, i.e., pollen maturity and dispersal precedes stigma receptivity. Pollen is rounded and multiporate. Stigmas enlarge and reflex; stigmatic surface cells expand from short papillate cells to elongate, filiform configurations. Early floral organogenesis is similar in fertile and male sterile types. However, in sterile flowers a plasmodial tapetum forms and there is a general degeneration of anther components. Microspore wall formation is defective. Anthers appear collapsed in the mature flower.

taboratory and to not that all strains infected, folled, and reproduced in the SBRM larvac. Moriafity of the root maggets ranged from 50 to 85 percent in the laboratory. Death of the larvac occurred 24 to 48 hours after nematode infection. Reproduction within the larval cadavers produced event througaid infective juvends inematodes 12 to 14 days after infection. Our first-year field tasts, conducted in the number of 1992, indicated that all strains retried infection. Our first-year field tasts, Forther laboratory tests determined that adult files were infection. The results of our investigation show the potential of pathogenic ten stocks as a building of the control of our investigation show the potential of pathogenic ten stocks as a building control agent for SBRM.