Histopathological and symptomatological studies are described from Kenya on larvae of Spodoptera exempta (Wlk.) infected with a nuclear polyhedrosis virus derived from larvae collected in the field during an epizootic. The fat-body, epidermal and tracheal epithelial cells were the most susceptible to infection. Polyhedra appeared within the nuclei of these cells 48 h after infection, and lethargy was already noticeable 24 h after infection. Nuclear proliferation was prominent in infected larvae; by 96 h, the polyhedra-filled nuclei occupied most of the cellular cytoplasmic area and some cells had lysed. Mortality started at 72 h, was highest at 96-120 h, and by 144 h only a few of the larvae were still alive. No cellular hypertrophy was observed