

Managing Viruses in Vegetables

Smallholder farmers are the main producers of cabbage and kale – popular crops for the peri-urban markets in Kenya. Virus diseases are, however, a major problem as they can cause severe reduction in yield and can sometimes result in a crop being completely destroyed. In a survey conducted in 2000 by CPP Project R7571, viruses were considered by the farmers to be the most important disease constraint. Almost 90 per cent of farmers, however, do nothing about virus infection.

whereas TuMV on its own and TuMV plus CaMV significantly reduced yield.

Expensive chemical treatments to control the insect vectors have been largely unsuccessful in the control of these diseases. An integrated approach using sustainable, low input control methods and identifying farmer perceptions of virus diseases and their control practices should lead to more effective control.



Seedbeds being treated on-farm with straw mulch and fleece to assess impact of treatments on virus incidence

Cauliflower mosaic virus (CaMV) and turnip mosaic virus (TuMV) have been identified as two of the major virus disease problems that vegetable growers supplying urban markets in Kenya have to cope with. In a 'screenhouse' trial to determine the effects of virus infection on yield of cabbage, CaMV had little effect on yield,

Seedlings grown in seedbeds treated with straw mulch which were then transplanted into fields similarly treated with straw mulch had a much lower virus incidence than untreated seedlings. Aphid populations were also affected. This experiment has been taken on-farm at Athi River and Karigoine and has been met with enthusiasm from farmers.



Kale leaf showing typical chlorosis produced by TuMV infection

Another virus, beet mosaic potyvirus, has been recently identified as an important constraint in swiss chard/spinach production for peri-urban markets. Work is currently in progress to examine the economic significance of this virus and identify appropriate disease management strategies.

R7571: *Management of virus diseases of important vegetable crops in Kenya*

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