

Importance of cocoyams (*Xanthosoma* sp.) in farming systems affected by banana *Xanthomonas* wilt in Eastern Democratic Republic of Congo



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Background

Cocoyam (*Xanthosoma* sp.) is widely grown, often intercropped with banana and plantain throughout eastern Democratic Republic of Congo (DRC). Traditionally cocoyams are grown as a subsistence crop largely regarded as a safeguard against famine, with increased utility when other crops fail. Cocoyam grows well under the shade of banana plants with a maturity period of 9 to 11 months, after which roots can be harvested continuously. Corms are rich in starch while young leaves of some varieties are used as vegetables.

Status

In the past five years cocoyams have gained importance in east DRC following massive devastation of bananas by *Xanthomonas* wilt disease (BXW). *Xanthomonas* wilt causes total crop loss, reducing food security, income and ecological stability. After loss of banana, cocoyam has become a major source of food, while the broad canopy and roots reduce water erosion. However, due to the close association of banana and cocoyam, BXW occurrence is affecting cocoyam production in several ways shown below.

Healthy banana towering over cocoyams



Xanthomonas wilt kills banana mats, cocoyams left exposed below.



Where bananas have been destroyed by *Xanthomonas* cocoyam leaves and roots help to reduce soil erosion.



Infected banana mats are uprooted exposing soil to erosion.



Banana infected by *Xanthomonas* wilt

Soil disturbance could be reduced by using herbicides, e.g. 2,4D to kill infected banana mats. However, 2,4D kills cocoyams, thus it is not suitable in a mixed cropping system.



Experiment: cocoyams treated with 2,4D lowest dose



Increased incidences of cocoyam rots is observed in areas where banana have been affected by BXW.



Cocoyam garden occupying an area previously with banana



Experiment: cocoyams not treated with 2,4D

Conclusion

- Cocoyam has the greatest potential to provide short term food security and stabilize the environment in areas where bananas are destroyed by *Xanthomonas* wilt.
- Cocoyam needs more research input and policy support, as well as publicity to promote its food and cash value and develop solutions to current challenges, e.g. the increasing incidence of rot and wilt diseases.

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