NEMATODES AND BANANA (Musa Spp)

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Banana constraints

Weevils

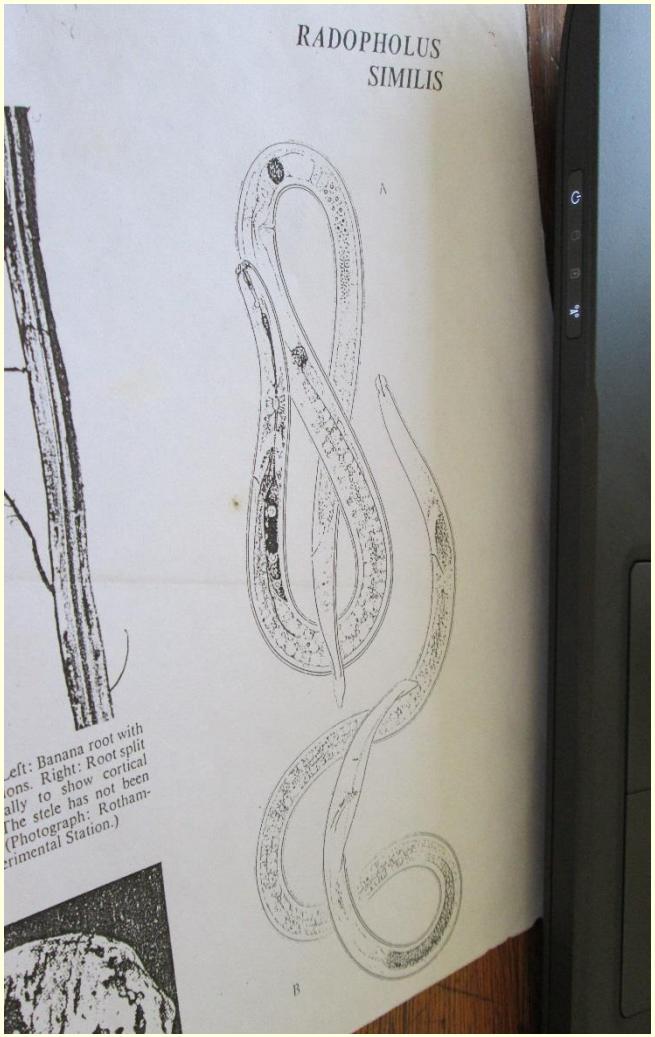
Fusarium wilt

Bacterial wilt

Nematodes

Nematodes

- ***Radopholus similis***
- **About 50% yield loss**



Nematode damage on *Musa*

- **Reduced water and nutrient uptake**
- **Reduced tolerance to other stresses**
- **Reduced/Poor yield**

Most banana damaging nematode species

- **Burrowing nematode: *Radopholus similis***
- **Root-lesion nematodes: *Pratylenchus coffeae & goodeyi***
- **Spriral nematodes: *Helicotylenchus Multicinctus & dihystera***
- **Sedentary nematodes: *Meloidogyne* spp (*incognita, javanica, arenaria, hapla*)**

NB: More than 150 other nematode species have been <u>occasionally</u> found on banana roots and some causing damage

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Above ground symptoms

- Plant toppling
- Stunted growth
- Chlorosis
- Lengthening of crop cycle
- Reduction in size and number of leaves
- Reduced bunch weight
- Reduction in production life of plantation

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Plant toppling

Root necrosis

Toppling vs snapping

Stunted growth & chlorosis

Reduced bunch weight

Below ground symptoms

Root and corm damage

- Lesions
- Necrosis
- Cracking
- Galling
- Root termination

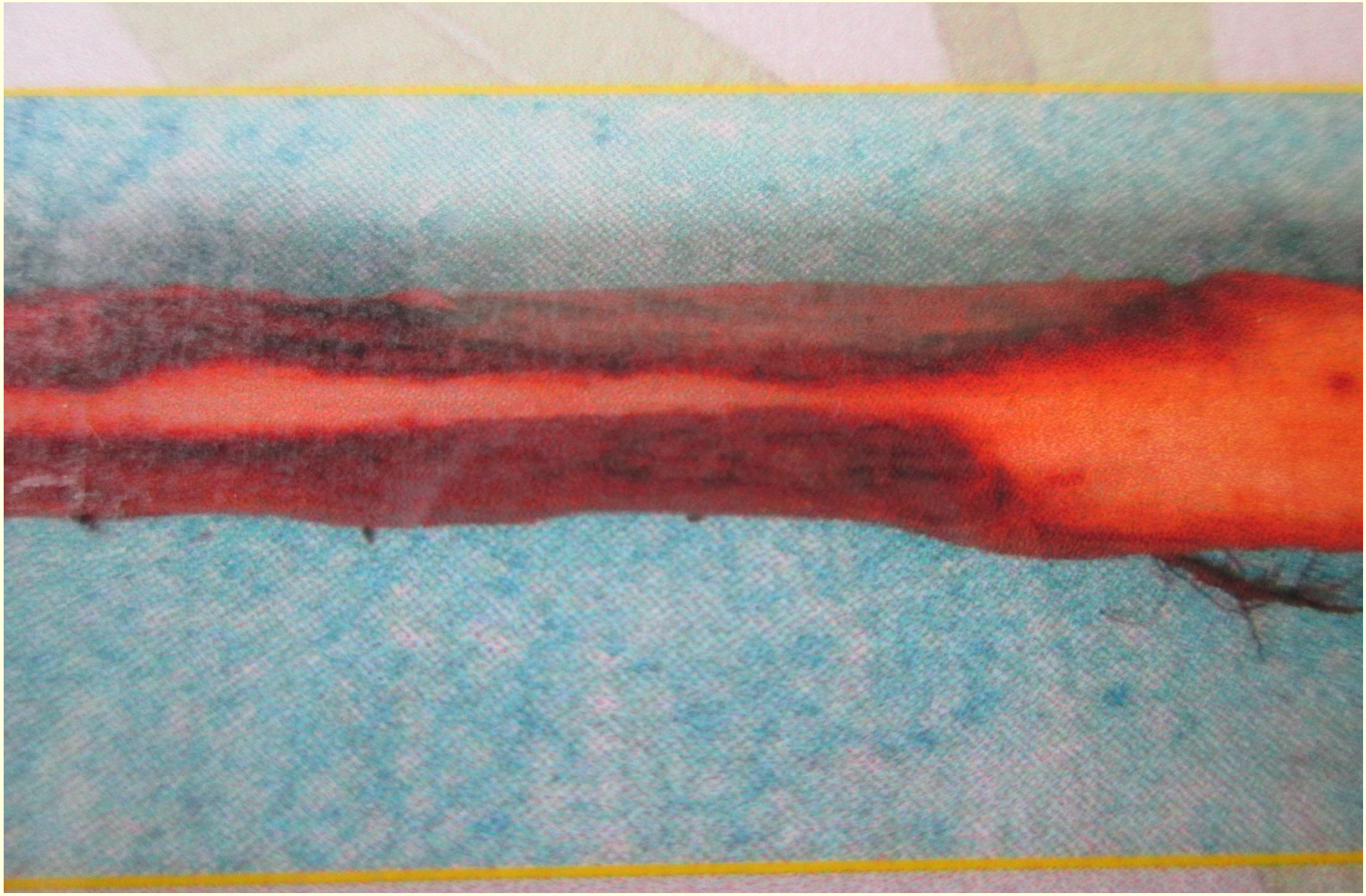
Corm damage

Mild corm damage

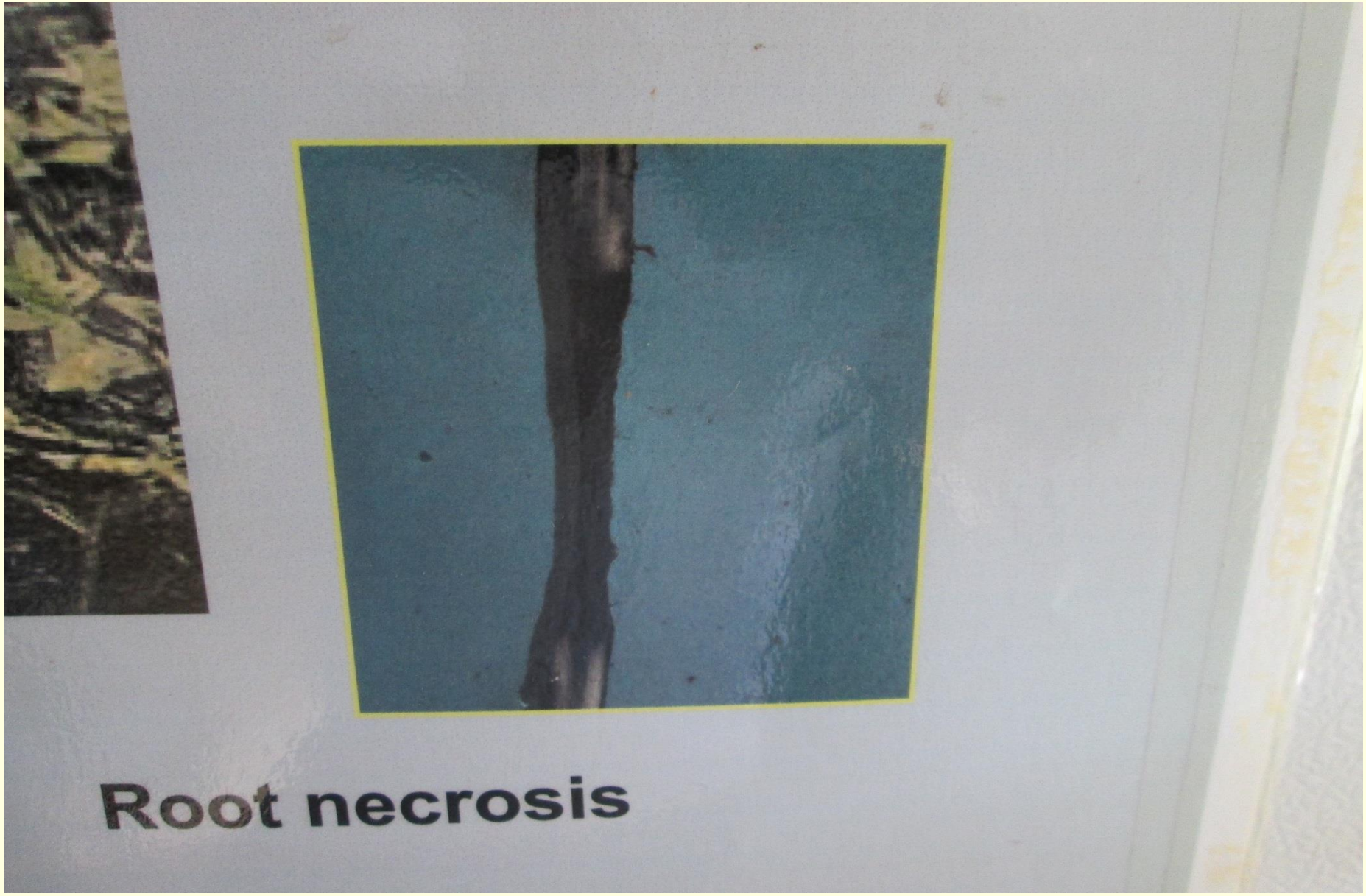
Severe corm damage

Root lesions

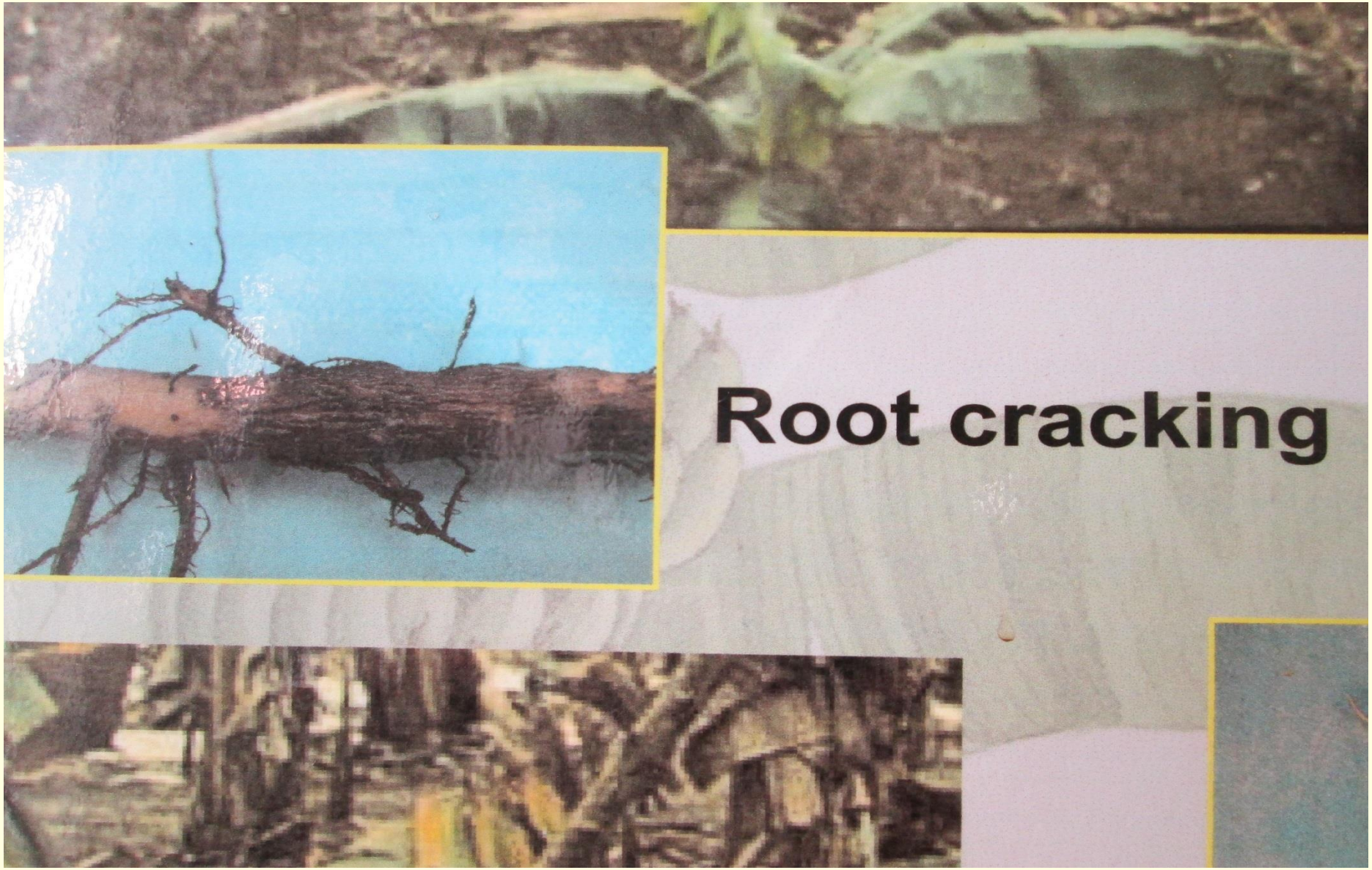
Root lesion



Root necrosis



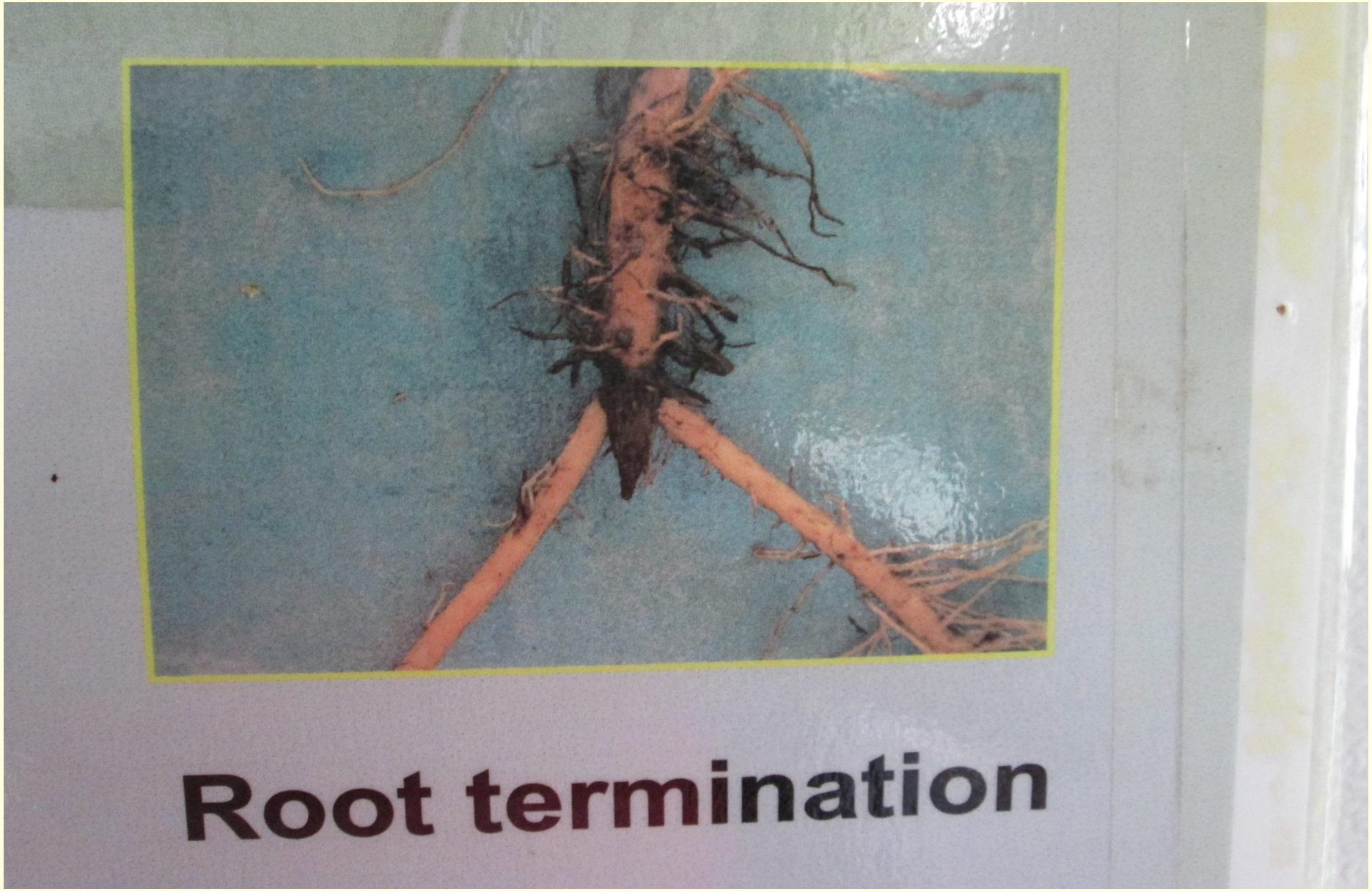
Root cracking



Root galling

Root galling

Root termination



Nematode control measures

- Clean planting material
- Chemical control
- Resistant cultivars
- Botanicals

Hot water treatment

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Nematode control (cont')

Botanicals

Tithonia diversifolia

Crassocephalum spp.

Tagetes spp.

Neem

Conclusion

- Root damage can be seen as small dark purplish-red lesions on the outer parts or roots.

- Lesions may also enlarge into purplish-black necrotic areas which extend throughout cortex but not the stele.

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