Bean rust

_Uromyces appenduculatus_, local name: Kutu ya maharagwe (Swahili)

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| - Practice 2 year crop rotation with non-leguminous plants such as tomatoes, cabbages and kales  
- Remove and burn old crop residues as the disease can live for one year on the material left in the field  
- Plant resistant varieties like GLP-X 1127 new mwezi moja, New rose coco and Kutuleess (J12) French beans.  
- Use clean bean seeds originating from non-diseased plants or from certified seeds dealers  
- Plough deep to about 45 cm to turn residues into the soil. This encourages rotting of the plant remains and reduces fungal inoculum to the next bean season  
- Avoid planting new bean crop next to an old bean field  
- Remove weeds and alternate host plants e.g. _Oxalis spp_ from bean fields.  
- Avoid relay planting of bean crop  
- Avoid walking through the field during wet weather to prevent disease spread from one plant to another | - Look out for small orange to yellow halo-like powdery pustules on the upper side and orange to red circular pustules on the lower leaf surface.  
- Also look out for pustules on the petioles, pods and the stem.  
- Consider applying direct control when brown pustules are observed on the leaves of 4-5 plants | - Hexaconazole (e.g. Cotaf 5% EC) at 75-100ml/20L of water  
- FRAC mode of action 3 | - WHO III (Slightly hazardous)  
- PHI 14 days |
| - When using a pesticide always wear protective clothing. Follow the instructions on the product label, such as dosage, timing of application, pre-harvest interval, max number of sprays, restricted re-entry interval. Do not empty into drains  
- WHO class II pesticides might not be allowed in local IPM schemes  
- Always consult recent list of registered pesticides (PCPB) |