



Japan International Cooperation Agency



Agriculture and Food Authority
Horticultural Crops Directorate



Ministry of Agriculture, Livestock and Fisheries
State Department for Crop Development & Agricultural Research

Smallholder Horticulture Empowerment & Promotion Project for Local and Up-Scaling (SHEP PLUS)

“Changing Farmers’ Mindset from “Grow and Sell” to ”Grow to Sell””

BANANA PRODUCTION

Presented to the County & AFA (HCD) Staff in charge of the
SHEP PLUS Model Farmer Groups during the FT-FaDDE

Prepared by SHEP PLUS

1. Introduction:

1.1 Background



Banana (Ndizi)

- Banana is mainly cultivated for its fruit which can either be eaten **ripe** (dessert) or **cooked**
- The ripe fruit is a good source of **vitamins A, B₆ & C** and **potassium**, while cooked one is rich in carbohydrates
- It can also be processed into **flour, canned slices, jam, jelly** and **beer**
- The popularity of the crop makes it a **good cash crop** for smallholder farmers
- The **foliage** and **pseudo-stems** are used as cattle feed during drought
- The **banana leaves** are also used as **packing** and **roofing material**

1.2 Common Varieties



- The following are the common varieties grown in Kenya

“Giant Cavendish”

- A tall variety
- Resistant to Fusarium wilt (Panama disease)
- Susceptible to Sigatoka
- Has a strong pseudo-stem
- The plant requires propping

“Giant Cavendish”



“Chinese Dwarf”

- A short variety
- The plant does not require propping
- Grows in areas with altitude as high as 2,100 m
- Resistant to fusarium wilt (Panama disease)
- Susceptible to Cigar-end Rot & Sigatoka

“Chinese Dwarf”

1.2 Common Varieties Cont'



“Grand Nain”



“Williams Hybrid”

1.2 Common Varieties Cont'

“Grand Nain”

- A cultivar of Cavendish type
- Tolerant to environmental stress
- Produces good quality bunches with fruits which are uniformly yellow in colour
- Mature fruits have good shelf life
- Requires propping

“Williams Hybrid”

- Produces large bunches with fruits which have excellent flavour, aroma, and taste when ripe
- Ripe fruits have short shelf life

“Valery”

- A tall variety and has good taste
- Strong pseudo-stem

1.2 Common Varieties Cont'

FHIA Hybrids: “FHIA-17, 18, 23, 25”

- Varieties which have been developed by International Institute of Tropical Agriculture
- Resistant to “Black Sigatoka”
- Used for cooking and dessert
- Produce heavy bunches with an average weight of 50 kg
- The plants require support to prevent lodging

Other varieties:

- Ngombe, Lacatan, Apple (Sweet/ Sukari), Gross Michel, Poyo, Kisii Matoke, Muraru, Bogoya, Kampala, Kisigame, Manyoke, Kiganda & Mutahato



FHIA-17”

1.3 Optimal Ecological Requirements

Altitude	0-1,800 metres above sea level
Rainfall	1,000 – 2,000 mm of rainfall annually
Growing Temperature	20 – 30 °C
Soils	<ul style="list-style-type: none">• Deep well drained soils• pH range 6.0 – 7.5

- **Wind:** Bananas are sensitive to strong wind which causes tearing of leaves and lodging of plants hence need for **protection from strong winds** by establishing wind breaks

2. G20 technologies

➤ Make sure to support farmers carry out G20 techniques for any crop

1. Market survey
2. Crop planting calendar
3. Soil testing
4. Composting
5. Use of quality planting materials
6. Recommended land preparation practices
7. Incorporating crop residues
8. Basal application of compost/ manure
9. Recommended practices of seedling preparation/ seedlings from registered nursery

2. G20 technologies

- | | |
|---|--|
| 10. Recommended spacing | 16. Safe and effective use of pesticides |
| 11. Recommended fertilizer application rate | 17. Use of harvesting indices |
| 12. Supplementing water | 18. Appropriate post harvest handling containers |
| 13. Timely weeding | 19. Value addition techniques |
| 14. Top-dressing | 20. Keeping farm records |
| 15. IPM practices | |

3.1 Quality Planting Materials

(G20: Q5)



**Tissue Culture
Banana Seedlings**



Sword suckers

3.1 Quality Planting Materials



Tissue Culture Banana Seedlings



Sword suckers

(G20: Q5)

- Bananas in Kenya are **propagated vegetatively** using **tissue culture** and **sword suckers**
- **Tissue Culture:** these are normally disease & pest free plantlets that are multiplied under controlled conditions (laboratories) before being transferred to nurseries for hardening before sale
- **Sword Suckers:** the commonly used method by most smallholder farmers (hot water treatment required)

3.1.1 Tissue Culture Seedlings



Tissue Culture Banana Nursery



Tissue Culture Banana Seedlings Ready for Transplanting

- The planting material should be sourced from **registered nurseries** that are known to sell Tissue Culture seedlings e.g. **KALRO, JKUAT** & some private companies such as **Genetic Technologies, Aberdare Technologies & Africa Harvest Biotech Foundation**
- Registered hardening nurseries
- Advantages of using tissue culture seedlings; elimination of risks of pests & diseases, production of uniform banana crop and higher yields

3.1.2 Sword Suckers



- Most farmers use sword suckers obtained from own farm or from neighbors to extend existing or establish new banana orchards
- The common farmer practice of using infected sword suckers has continuously perpetuated the spread of banana diseases and pests
- To mitigate this problem, suckers need to be disinfected before planting or being moved

Sword suckers in a field

3.1.3 Suckers Disinfection through Hot Water Treatment



Sword suckers



Photo: SHEP PLUS

Disinfection of Banana Suckers

3.1.3 Sucker Disinfection through Hot Water Treatment (1/2)



**Disinfection of Banana Suckers
for nematode/weevil control**

- In the absence of Tissue Culture Banana seedlings, **sword suckers** can be used as the propagation material
- Sword suckers are shoots with narrow leaves with height of about **1 m** and **15 cm** diameter at the base
- Sword suckers are sourced from existing Banana orchard therefore it is necessary to treat the suckers with hot **water to eliminate nematodes & banana weevils**

3.1.3 Suckers Disinfection through Hot Water Treatment (2/2)



**Disinfection of Banana Suckers
for nematode/weevil control**

- This process involves the following:
 1. Trimming all the roots
 2. Cutting off **1 cm** of tissue around the corm until you get clean white tissue
 3. Prepare hot water
 4. Immerse the trimmed corm in the hot water bath at **50 – 55 °C** for **20minutes**
- **Note:** In farm situation where there is no thermometer, the suckers can be dipped in **boiling water** for **30 seconds**

4. Cultural Practices:

4.1 Land Preparation



Weighing Manure

4. Cultural Practices:

4.1 Land Preparation

(GHCP&PHHT20: Q6)

- Before planting, **deep soil cultivation** by ploughing & harrowing is recommended
- The field should be **free of trees, bushes** and especially **perennial weeds**
- A planting hole measuring **60 cm x 60 cm x 60 cm** is recommended although this may vary depending on water availability
- In **dry & semi-arid areas**, it is recommended to use holes measuring **90 cm x 90 cm x 90 cm**
- Bananas **cannot withstand stagnant water** hence **soil should have good drainage**

4. Cultural Practices:

4.1 Land Preparation

4.1.1 Recommended Spacing

(GHCP&PHHT20: Q10)

- Short Varieties: **3 m x 3 m** (444 plants/acre)
- Medium Varieties: **3 m x 4 m** (333 plants/acre)
- Tall Varieties: **4 m x 4 m** (250 plants/acre)

4.1.2 Fertilizer Application Method & Rates

(GHCP&PHHT20: Q11)

- The **top soil** and **sub soil** should be kept separate
- Mix the top soil with **2-3 debes (20-30 kgs)** of well decomposed manure and **200 g** of Triple Super Phosphate (TSP)
- Refill the hole with the top soil first followed by the sub soil
- Allow it to settle for **at least 2 weeks** before transplanting

4.2 Transplanting



Banana Seedlings After Transplanting

- Transplanting should be done when tissue culture seedlings are about **30 cm** and have produced **at least 5 healthy leaves**
- To ensure **good anchorage**, a sucker or seedling should be placed **30 cm** deep in the planting hole
- **A heavy cover of mulch** should be placed around each plant to conserve soil moisture
- Under rain fed conditions, planting should be carried out at **the onset of the rains**
- However, if irrigation water is available, planting can be done throughout the year

4.3 Crop Management

4.3.1 De-suckering



Poorly Managed Banana Stools



Well Managed Banana Stools

- Process of removing unwanted suckers from one stool so that at any moment a stool has only **3 suckers**:
 - One **bearing sucker (mother plant)**
 - One **half-grown sucker (daughter plant)**
 - One **sprouting sucker (grand daughter plant)**
- The surplus suckers are dug out with corm, and can be used as planting material
- In order to prevent sprouting: Insert a peg in the growing part
- The process should start **2 months after planting** and be repeated **every 45 days** till the plant flowers₂₁

4.3.2 Propping



- It is **the process of supporting banana plants** which have mature or immature fruit bunches to prevent them from lodging
- A pole with a **V-shape end** is placed under the bunch to support it
- The prop should be placed carefully to avoid fruit injury
- The major varieties which require propping are: **Grand Nain, Williams, Valery, Giant Cavendish, FHIA series, Ngombe** etc.



**Propped up
Banana Plants**

4.3.3 Trimming of Old Dried Leaves



**Neglected
Stool with
Dried Leaves**



**Well Managed
Orchard without
Dried Leaves**

- This activity is useful since it ensures light penetration in the orchard and helps reduce certain **leaf diseases** and reduces **injury** caused to bananas by the **dry leaves** during **windy** periods
- **All dry/dead leaves** which hang down the sides of the pseudo stem need to be removed **at least twice a year** (Each pseudo stem should have **7 leaves** at any one time)
- **Trimming;**
 - Ensures **light penetration** in the orchard
 - Helps **reduce certain leaf diseases**
 - Reduces **injury** caused to banana fruits by the dry leaves during windy periods
- After harvesting, the pseudo-stem should be cut off at ground level, and chopped into small pieces to avoid banana weevil infestation

4.3.4 Removal of Male Bud & Bagging



Before Removal



After Removal

- The male bud or navel should be removed **after bunch formation is complete**
- The advantages of removing the male bud include; **increase in yield, uniformity of hands** and **reduced thrips attack**

Note: Tools used during removing male buds and pruning need to be disinfected

4.3.5 Bunch Covering (Bagging)

- Covering banana bunches with special polybag in order to protect them from being attacked by thrips and other insects
- Fasten maturing bunches

4.4 Water Requirement

(G20: Q12)



**Banana Orchard Under
Irrigation**

- Banana plants require a minimum of **1,000 mm of rainfall annually**
- Irrigation is therefore necessary where the rainfall received is less than this amount
- Water is critical at flowering
- Therefore, in drier areas, supplemental irrigation may be necessary during this time 40-60litres/stool weekly (in two splits)

4.5 Managing of Weeds

(G20: Q13)



Weed Management Through Mulching

- Orchards should be kept weed-free through either **hoeing, mulching** or **herbicides**
- Since bananas are **shallow-rooted**, care should be taken during weeding to avoid root injury
- A well maintained heavy mulch cover will **suppress weed growth, retain moisture & provide humus** for a good soil structure
- The orchard can also be kept weed-free through **inter-cropping**
- **Use of herbicide** such as Paraquat Dichloride (**Gramoxone®**, **HERBIKILL®**) or Glufosinate - Ammonium (**Basta®**) is also effective

4.6 Top-dressing (2/2)

4.6.1 Top-Dressing by Fertilizer

- Fertilizer should be applied twice a year during the **rainy season**
- **Apply 200g of CAN** per stool. The top-dressing fertilizer should be applied in a band **60cm** away from the plant
- Or, an **NPK** fertilizer rich in **K** such as **Mavuno Banana (10-3-20+TE) 250g** per stool
- **2 – 4 debes (20-40 kgs)** of well decomposed farmyard manure is applied **per stem per year** before the rains. This is applied on the outer diameter of the canopy and incorporated into the soil carefully to avoid root damage

4.7 Pest & Disease Control

4.7.1 Major Pests

- The following are the important pests of Banana in Kenya:

A. Burrowing Nematode

B. Banana Silvering Thrips

C. Banana Weevil Borer

D. Moles

E. Fruit Fly

F. Banana Aphids

4.7.1.A: Burrowing Nematodes



**Burrowing nematodes on
banana roots**

- Nematodes are **the most damaging pests** causing **over 70 % loss** of the crop

Damages:

- Lesions** and **tunnels** within the rhizome
- Root destruction leads to toppling of mature plants, especially in windy conditions or during bearing stage

Control:

- Use of **clean planting material** (**Tissue Culture** or by **hot water treatment**)
- Use **“Tithonia”** and **“Mexican Marigold”** in banana farm as green manure
- Apply **farmyard manure** or **poultry manure**
- Use of **nematicides** such as **Azadirachtin (Achook®)**, **Ethoprophos (MOCAP GR 10®)**²⁹

4.7.1.B: Banana Silvering Thrips



Photo: Scot Nelson (CC BY 2.0)

<https://www.flickr.com/photos/scotnelson/27755734515/in/photolist-Jb53fP-JhFoSP>

Damage on Banana fruits

Damages:

- **Silvery patches** on the fruits that later turn **brown**
- The skin of heavily infested fruit may crack permitting secondary infection which results in **fruit rot** making it unattractive hence lowering its marketability
- High concentration in male flowers

Control

- **Removal of male flowers**
- **Covering** of bunches/ Bagging
- Use of **insecticides** such as
 - **Deltamethrin (Decis 2.5 EC®)**
 - **Pirimiphos-Methyl (ACTELLIC 25EC®)**

4.7.1.C: Banana Weevil Borer



Photo: Scot Nelson, Public Domain Mark 1.0
<https://www.flickr.com/photos/scotnelson/31083069944/in/photostream/>

Identification:

- Weevil: A **brown-black weevil** with a **curved hard shell**
- Borer (Grub): Form **irregular tunnels** in the rhizome reducing it to a mass of rotten tissue

Damage:

- The leaves of infested plants turn **yellow**, **wither** and **die prematurely**
- Infested plants are **easily blown over the ground by wind**

Weevil damage on a banana corm

4.7.1.C: Banana Weevil Borer



Photo: © A.M. Varela, icipe (CC BY-NC-SA 3.0)

<http://www.infonet-biovision.org/PlantHealth/Crops/Bananas>

Banana weevil adult

Control:

- **Use clean planting material** for propagation (**Tissue Culture** or **hot water treatment**)
- **Do NOT** leave suckers and other planting materials over night in the field, as the weevils may lay eggs on them
- After harvest, **cut stems at the ground level** and **cover the cut surface** with a layer of earth to prevent entry of the weevil
- **Cut harvested stems into very small pieces** to allow faster drying and rotting

4.7.1.D: Moles



Photo: By Scapanus_latimanus.jpg: Sarah Murray derivative work: WolfmanSF (Scapanus_latimanus.jpg) [CC BY-SA 2.0 (<http://creativecommons.org/licenses/by-sa/2.0>)], via Wikimedia Commons
https://commons.wikimedia.org/wiki/File%3AScapanus_latimanus2.jpg (9 Dec 2016)

A Mole making tunnels at the base of Banana stool

Identification:

- Moles are **small cylindrical mammals**
- They have velvety fur; tiny or invisible ears and eyes; and short, powerful limbs with large paws oriented for digging
- **Forms mounds of soil** (shaped like a volcano) and/or **surface tunnels**

Damage:

- **Stools fall over** from damage on the roots

Control:

- Keep the basin of the banana stools **always moist** as moles do not like living on wet grounds
- **Do NOT heap/mount soil** around the basin of the banana stool as this might become a hide out for the moles
- Use **traps** with baits
- **Field sanitation**

4.7.1.E: Fruit Fly

3-24



Fruit fly (*Bactrocera invadens*) attack on green banana
(c) M. K. Billah, icipe (CC BY-NC-SA 3.0)

Description:

- Two species; *Bactrocera invadens* and *Ceratitis rosa*.
- *Bactrocera invadens* is 2-3mm long prevalent in Kenya and Sudan.
- It is a major pest that leads to rejections in the export market.

Damages:

- Fruits show small wet spots with back holes at the centre

Damage On Green Banana fruits

4.7.1.E: Fruit Fly

3-25



Fruit fly (*Bactrocera invadens*) attack on green banana
(c) M. K. Billah, icipe (CC BY-NC-SA 3.0)

Control

- **Hygiene-** remove and destroy infested bananas
- Bagging using polyethylene

Fruit fly

4.7.1.F: Banana Aphids



Banana Aphids, vector of Banana bunchy top virus (BBTV)

Identification:

- It is a small aphid about 1-2 mm long and blackish-brown in colour
- Colonies are usually present on the base of young leaves

Damage:

- The direct damage caused by aphids sucking the plant sap is negligible. However, they are important pests as **vectors** of the virus causing the **bunchy-top** disease.

Control:

- Conserve natural enemies. They are important in natural control of aphids.
- Monitor the crop regularly
- Spray insecticides such as Lambda Cyhalothrin (Karate Zeon®), Oxydemeton-Methyl (HATTRICK EC®)

4.7.2 Major Diseases

- The following are the major diseases of bananas in Kenya:
 - a. Panama Disease (Fusarium Wilt)**
 - b. Black Sigatoka**
 - c. Cigar-end Rot**
 - d. Banana Bacterial Wilt**
 - e. Bunchy Top Disease**
 - f. Anthracnose Disease**

4.7.2.a: Panama Disease

3-24a



3-24b



**Banana plant with collapsed dry leaves (left)
and infected banana pseudo-stem**

4.7.2.a: Panama Disease

General Description:

- A **soil-borne disease** also known as “**Fusarium Wilt**”
- Fungus attacks roots and **blocks vascular system** causing wilt

Symptoms:

- The **older leaves turn yellow** and collapse while still green at the base
- The leaves fall in order, from the oldest to the youngest until they hang around the pseudo-stem like **a skirt**, and dry up
- The **emerging heart leaf may die** while the stem remains erect till it decays and falls over, or, stem cracks before falling
- Internally, there is vascular discoloration in the outer leaf sheath
- Diseased plants **fail to produce normal fruit and die** before the fruit stalk is fully developed
- Apple and Gross Michel/Kampala are **highly susceptible** to this disease

4.7.2.a: Panama Disease

Control:

- Use of resistant varieties, such as **Giant Cavendish**, **Lacatan** or **FHIA hybrids**
- **Use disease-free material** (Tissue Culture and clean suckers)
- **Observe quarantine**

4.7.2.b: Black Sigatoka/ Black Leaf Streak (1/2)



Photo: ©Scot Nelson (CC: BY 2.0)
<https://www.flickr.com/photos/scotnelson/29608954871>

A Banana leaf with symptom of “Black Sigatoka” infection

General Descriptions:

- A **fungal disease** that destroys banana leaves
- It can **seriously reduce crop yield**

Symptoms:

- First symptoms are **narrow, rusty, reddish-brown streaks** on the underside of leaves
- These become **dark brown or black spots** on both surfaces and develop **yellow margins & grey centres**
- It causes **significant reduction** in leaf area, premature ripening and yield **loss of 50 % or more**

4.7.2.b: Black Sigatoka/ Black Leaf Streak (2/2)



Photo: Ko Ko Maung, Bugwood.org, (CC BY-NC 3.0 US)

A Banana leaf with symptom of “Black Sigatoka” infection

Control:

- **Cultural practices** such as removal of infected leaves, adequate spacing of plants and efficient drainage within orchards
- Use of resistant cultivars e.g. **FHIA 17, 18, 25**, some Cavendish varieties like **Williams** and **Grand Nain**
- **Avoid overhead irrigation**
- Chemical control with **fungicides** such as **Mancozeb (DITHANE M-45®)** or **Thiophanate-Methyl (TOPSIN M Liquid®)**

4.7.2.c: Cigar-end Rot



Photo: ©Scot Nelson (CC: BY 2.0)
<https://www.flickr.com/photos/scotnelson/5670474991>

**“Cigar-end Rot” damage on a
Banana fruit**

General Description:

- The fungus invades the dry flower parts and penetrates into the skin
- Favoured by **high humidity** due to overcrowded orchard or stool and abundant leaf trash

Symptoms:

- Tips of the attacked **Banana fingers** undergo a dry rot with an **ashy gray appearance** looking like a **cigar**

Control:

- Field hygiene and removal of excess suckers
- **Male flower bud should be removed at 15 cm** below the last hand after completion of bunch formation
- **Use of fungicides**, such as
 - Propineb (Antracol WP70®)
 - Thiophanate-Methyl (Topsin M Liquid®)
 - Mancozeb (Dithane M-45 WP®)

4.7.2.d: Banana Bacterial Wilt

3-28



Photo: © Rose Kamau, MOALF 2019

***Xanthomonas* Wilt-**
infected banana
pseudo-stem

3-29



Photo: © IITA (CC BY-NC 2.0) <https://www.flickr.com/photos/iita-media-library/6755031667/in/photostream/>

Banana fruit infected with
***Xanthomonas* “Bacterial Wilt”**

4.7.2.d: Banana Bacterial Wilt

General Description:

- The disease is easily spread by use of infected planting materials and farm tools
- Transmitted by insects including bees through the male bud
- **Lacatan** is a very susceptible variety

Symptoms:

- **Withering of flowers, wilting of leaves and premature ripening of fruits**
- The leaf sheath turns **dull green, scalded & breaks at petiole**, then all leaves **collapse at pseudo-stem**
- Cross section of the pseudo-stem when cut reveals yellow discoloration bacterial ooze
- **Un-even and premature ripening of fruits**

Control:

- **Field Sanitation:**
- Disinfecting farm tools after use and washing hands **e.g.** use of Jik 1:5 water
- Uprooting, destroying and burying infected plants
- **Disbudding of male flower bud** after fruiting
- Observe **quarantine**
- Use **clean** planting materials

4.7.2.e: Bunchy Top Disease



© Pearson, M.N. Courtesy of EcoPort, www.ecoport.org

Banana Bunchy Top Virus

Description

- **Virus disease** transmitted by aphids at **any** growth stage

Symptoms

- Starts as dark green dots/streaks on the minor veins or midrib
- Successive leaves become smaller, chlorotic with upturned margins
- Leaves dry, brittle and erect giving a rosetted “**bunchy top**” appearance
- Severe in newly planted suckers
- No flowering or very small bunches

Control

- Control **Aphids**
- **Rogue** and destroy infected plants
- Use **virus-free** planting material⁴⁶

4.7.2.f: Anthracnose Disease

Description

- An important Post-harvest disease especially in transit

Symptoms

- Pin-size brown/black sunken spots on green fruits
- Spots' centres darken (fruiting bodies)
- Masses of spores produced with a characteristic salmon (pinkish) colour under moist conditions.
- Pulp not affected unless over-ripe

Control

- Good field sanitation
- Minimize bruising in the post-harvest
- Hot water treatment (50°C for 5 mins) on fruits



Anthracnose fruit rot on banana
© A.A. Seif, icipe, (CC BY-NC-SA 3.0)

5. Harvest



**Harvested banana bunches
ready for transport to the
market**



**A harvested bunch of
bananas on display**

5. Harvest

5.1 Harvesting Indices (G20: Q17)

- **Fruit Size:** length and volume of fruit increases as fruit matures
- **Fruit Shape:**
 - At early stage of development, individual fruits are angular in cross-section
 - As the fruit matures, the fingers become more rounded
- **Peel and Pulp Color:**
 - During maturation, the color of peel changes from **deep green** to **light green** or **yellow**
 - The pulp color changes from **cream** to **orange yellow**

5. Harvest

- Harvesting involves:
 - **Cutting the bunch** from the **pseudo-stem**
 - For tall varieties, the pseudo-stem may be cut **half-way** to allow the bunch to be reached and thereby prevent it from falling on the ground
- Harvesting starts **9 – 18 months** after planting
- Banana comes to full production in **2 – 3 years**
- Average yield in Kenya has been **6tons/acre**
- Under good management yields of **20tons/acre** can be achieved

6. Post-Harvest Handling

- Bunches must be **handled gently to avoid bruising**

6.1 Containers & Packaging Materials (G20: Q18)

- Farmers usually transport and market their bananas while in form of bunches
- This form of handling exposes the fruits to **mechanical damage** thereby reducing their quality
- In order to reduce this damage it is advisable to **remove the hands** and **pack in reusable plastic containers**

6.2 Value Addition Techniques: Cleaning, Sorting, Grading, & Processing (G20: Q19)

- **Sorting:** Remove undesirable fruits such as those with **thrips/ mechanical damage, rust damage** and **severe latex staining**
- **Processing:**
 - There are many products which can be made from Bananas
 - Some of these products include **flour, juices, chips/crisps, jams/jelly, sweets** and **wine**

7. Post-Harvest Handling



**Banana bunch being weighed
before selling**

Reference

- The proposed agrochemicals are in accordance with “Products Registered for Use on Crops Version 1_2018”. The registered agrochemicals are subject to change. Please refer to the latest registered agrochemicals by Pest Control Product Board.
- Infonet Biovision (<https://www.infonet-biovision.org/PlantHealth/Crops/Bananas>)

THANK YOU
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