

Planning and Record Book

Pineapple Production (Organic)

Name of Producer:

Name of Plot Recorded in this Book:

Use one Book per Plot!



Ministry of
Food & Agriculture



Ghanaian-German
Development Co-operation



**Market-Oriented
Agriculture Programme**

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Calendar of Organic Pineapple Farm Activities *(best practice; variations might occur according to local conditions and varieties)*

Farm Activities	Months (with planting in month 0)																		Remarks		
	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13		14+	
Cut trees, stump and clear																					Or removing previous crop!
1 st Ploughing																					Plough at least 30cm deep!
Sowing of cover crops																					
2 nd Ploughing to incorporate cover crops as green manure																					Wait 4 weeks till planting (decomposition)!
Apply organic fertilizer (solid)																					Apply on wet ridges!
Harrowing																					If required!
Ridging																					Along the contour lines!
Sucker picking																					Do it properly and remove basal leaves!
Mulching with plastic																					
Sort and grade suckers																					
Treatment of suckers																					Options: Neem + soap; citric acid + sulphur; garlic + gavilana; trichoderma
Planting of suckers																					Mark the holes. Plant by same grade!
Scouting, counting and D-leaves check																					Regularly and as often as possible
Irrigation/watering																					As and when needed!
Apply organic fertilizer																					4 and 7 months after planting; also 2 months after harvesting
Manual weeding																					Every 2 weeks, manually with a hoe!
Apply organic insecticide																					After scouting as needed, use neem!
Apply organic fungicide																					After scouting as needed, use neem!
Forcing (8-9 months after planting)																					Depending on variety & market needs!
Harvesting (135-145 days after forcing)																					Depending on brix and market needs!
Post harvest activities and Transport																					
Production of suckers																					Over a period up to 7 months!

General Information about the Pineapple Farm

Name of owner of the farm:		Certification type:	
Name of farm manager/instructor:		Certification number:	
Period of record keeping: from - to		First certification date:	
Association name:		Last certification renewal date:	
Region:			
District:			
Village or town:			
Location of mango farm:			
Total size of planted mango farm (acres):			
Available land for further future mango production (acres):			
Total number of different plots:			
Name of plot recorded in this book:			
Amount of dues you have paid to your association this year (GH¢):			
Amount of dues you have paid to your association last year (GH¢):			

Planning: Harvesting Dates, Volumes and Gross Revenue Calculation of Plot:

Planting Date	Planned Forcing Date	Planned Harvesting Date	Buyer (Name) Specify: Market Women, Processor, Exporter	Yield Estimate (kg)	Price per kg (GH¢)	Amount (GH¢) = Quantity to Sell x Price per kg
			Total Yield Estimate (kg):		Planned Gross Revenue (GH¢):	

Record-Keeping: Harvesting Dates, Volumes and Gross Revenue Calculation of Plot:

Planting Date	Forcing Date	Harvesting Date	Buyer (Name) Specify: Market Women, Processor, Exporter	Grade	Unit (kg, Crate, Fruit...)	Quantity of Units Sold	Price per Unit (GH¢)	Amount (GH¢) = Quantity of Units Sold x Price per Unit	Conversion Factor (CF): What is the Weight (kg) of one Unit?	Quantity Sold (kg) = Quantity of Units Sold x CF
							Actual Gross Revenue (GH¢):		Total Quantity Sold (kg):	

Gross Margin Calculation of Plot representing acre(s)

Planned Gross Margin (Data from Planning)

PLANNED GROSS REVENUE	
A. Planned Gross Revenue (GH¢) = (from page 5)	
PLANNED VARIABLE COSTS	
B. Total Planned Costs of Inputs (GH¢) =	
C. Total Planned Costs of Hired Labour or Services (GH¢) =	
D. Total Planned Value of Family Labour (GH¢) =	
E. Total Planned Variable Costs (GH¢) = B + C + D =	
PLANNED GROSS MARGIN	
F. Planned Gross Margin (GH¢) = A – E =	
G. Planned Gross Margin per Acre (GH¢) = F / size of plot =	
H. Planned Gross Margin per Own Working Day (GH¢) = (A – B – C) / PD Family Labour	

Actual Gross Margin (Data from Record-Keeping)

ACTUAL GROSS REVENUE	
A. Actual Gross Revenue (GH¢) = (from page 5)	
ACTUAL VARIABLE COSTS	
B. Total Actual Costs of Inputs (GH¢) =	
C. Total Actual Costs of Hired Labour or Services (GH¢) =	
D. Total Actual Value of Family Labour (GH¢) =	
E. Total Actual Variable Costs (GH¢) = B + C + D =	
ACTUAL GROSS MARGIN	
F. Actual Gross Margin (GH¢) = A – E =	
G. Actual Gross Margin per Acre (GH¢) = F / size of plot =	
H. Actual Gross Margin per Own Working Day (GH¢) = (A – B – C) / PD Family Labour	

Fixed Costs Calculation

PLANNED FIXED COSTS

A. Total Depreciations for the Plot (GH¢) = (from page 28)	
B. Total Planned Certification Costs for the Plot (GH¢) =	
C. Total Planned Consulting Fees for the Plot (GH¢) =	
D. Lease of Land for the Plot (GH¢) =	
E. Interest Rates on Loan for the Plot (GH¢) =	
F. Other Fixed Cost for the Plot (GH¢) =	
G. Other Fixed Cost for the Plot (GH¢) =	
H. Total Planned Fixed Costs for the plot (GH¢) = A+B+C+D+E+F+G =	

ACTUAL FIXED COSTS

A. Total Depreciations for the Plot (GH¢) = (from page 28)	
B. Total Actual Certification Costs for the Plot (GH¢) =	
C. Total Actual Consulting Fees for the Plot (GH¢) =	
D. Lease of Land for the Plot (GH¢) =	
E. Interest Rates on Loan for the Plot (GH¢) =	
F. Other Fixed Cost for the Plot (GH¢) =	
G. Other Fixed Cost for the Plot (GH¢) =	
H. Total Planned Fixed Costs for the plot (GH¢) = A+B+C+D+E+F+G =	

Net Income Calculation of Plot representing acre(s)

Planned Net Income (Data from Planning)

PLANNED GROSS REVENUE

A. Planned Gross Revenue (GH¢) = (from page 5)	
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TOTAL PLANNED COSTS

B. Total Planned Variable Costs (GH¢) = (from page 27)	
C. Total Planned Fixed Costs for the Plot (GH¢) = (from page 29)	
D. Total Planned Costs (GH¢) = B + C =	

PLANNED NET INCOME

E. Planned Net Income (GH¢) = A - D =	
F. Planned Net Income per Acre (GH¢) = E / Size of Plot =	

Actual Net Income (Data from Record-Keeping)

ACTUAL GROSS REVENUE

A. Actual Gross Revenue (GH¢) = (from page 5)	
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TOTAL ACTUAL COSTS

B. Total Actual Variable Costs (GH¢) = (from page 27)	
C. Total Actual Fixed Costs for the Plot (GH¢) = (from page 29)	
D. Total Actual Costs (GH¢) = B + C =	

ACTUAL NET INCOME

E. Actual Net Income (GH¢) = A - D =	
F. Actual Net Income per Acre (GH¢) = E / Size of Plot =	

Auto-Evaluation and Lessons Learnt

Have you achieved your expected gross margin? If not, why?	
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Production:

Have you achieved your expected yield? If no, why?	
With which farm activities were you late? Why? How to improve on it?	
What pests or diseases have affected your farm? What did you do against it? How did it work? How to improve on it?	
What other problems have affected your production? What did you do? How to improve on it?	
How could you reduce the costs of inputs?	

Training:

Which training or technical support do you need?	
Which training do your workers need?	

Marketing:

To whom did you sell?	For what market/what use? (e.g. export, fresh cuts)	Where did you sell? (Farm gate, factory gate...)	What kind of contract did you have with the buyer?

How would you qualify the relation with the buyer? (From very good to very bad)	
How did you agree on the sales price? Did you stick to it? Did the buyer stick to it?	
How could you get a higher price for your produce?	
If there have been any problems with the buyer, what were they? How to improve on them?	

☞ Checklist: Did you ...?

- Sow a cover crop as green manure
- Do 2nd ploughing to incorporate the cover crop
- Apply manure or compost
- Apply cocoa shells as organic fertilizer
- Do harrowing
- Do ridging at 70-80 cm interval
- Lay out plastic mulch
- Grade suckers, sort out wilted suckers
- Treat suckers
- Use a frame marker for spacing
- Create planting wholes with a flat piece of wood
- Scout regularly
- Do manual weed control
- Irrigate
- Apply organic fertilizer
- Spray foliar fertilizer
- Spray organic fungicides
- Spray organic insecticide
- Do forcing either early morning or late afternoon
- Harvest at appropriate maturity level
- Place fruits immediately in a shaded area
- Transport fruits as possible after harvest
- Weed and prune sucker field
- Do group purchasing of inputs
- Respect the contract with the buyer

☞ What needs to be improved next year?

- Sow a cover crop as green manure
- Do 2nd ploughing to incorporate the cover crop
- Apply manure or compost
- Apply cocoa shells as organic fertilizer
- Do harrowing
- Do ridging at 70-80 cm interval
- Lay out plastic mulch
- Grade suckers, sort out wilted suckers
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- Respect the contract with the buyer

What are 3 key points to improve on?

1.

2.

3.

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Dos and Don'ts in the Production of Organic Pineapples

("Good Life of Organic Pineapple" by former USAID / TIPSEE)

Activity

Bad Life Practice



Good Life Practice



Certification



No organic certification

No Certificate



1 Site selection



Water logged area



Heavy clay soil



Sandy soil



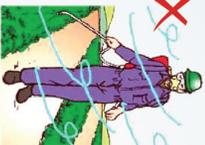
2 Land preparation



Ploughing along the slope



Use of prohibited fertilizers and Pesticides



3 Sucker selection and treatment



Wilt



Phyto

● Avoid heaping
Using diseases and pests infested planting material

4 Planting



Mixing sucker sizes



Screwing in suckers

5 Fertilizer application



Use of inorganic fertilizers



6 Weeding/weed control



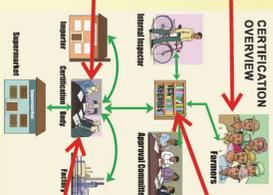
Don't wait for weeds to grow before spraying



Spraying with inorganic herbicides

Always adhere to organic standards

Contact and register with a certification body like IMO, control union, soil association



Complete the necessary practices and documentation

In doubt of anything, contact the certification body

Sandy loam



Good drainage



Good road access.



Ploughing across the slope



● Slashing and controlling burning
● Stamping

● Basal fertilizer
● Ridge (70-80cm interval)

Good land preparation (Mulching)

Prepare the bed



Apply basal organic fertilizer



Cover with plastic mulch



Plastic mulch conserves the soil moisture and speed up the maturity

Sorting and grading



Fresh, well cured suckers free from wilt and disease.

Large(400g~)

Good(200~400g)

Small(~200g)

● Remove basal leaves



Using frame marker to space



Planting in straight line and same size



Create a hole with a flat piece of wood

● Plant 24,000 per acre

Use of basal approved organic fertilizers (like citrus waste, cocoa shells, cow dung, poultry manure or compost)



● Balance organic fertilizer to obtain acid condition

Manual weeding



Activity

Bad Life Practice

Good Life Practice

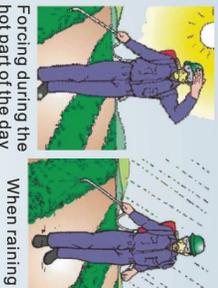
7 Plant prot. / pest cont.



Use of inorganic pesticides



8 Forcing



Forcing during the hot part of the day



When raining

Forcing young plants with d-leaf less than 80g

- Use of calcium carbide

• Adopt LPM practices

• Use only products referred to in annex ii of (EC) no.834/2007

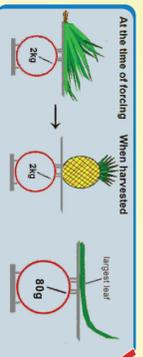
• Select disease free planting materials

• Rough out diseased plants including wilt once

• Good farm hygiene

Forcing at the right stage of growth (D-leaf 80g) 

Use ethylene



Wet application



Dry application

• Early in the morning or late in the evening

9 Pre-harvest operations after forcing

Degreening with a ethefl or ethephon



10 Harvesting



Heaping of fruits



• Throwing and catching; leaving on the ground

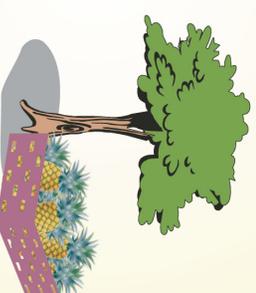


• Leaving fruit in the sun for long hours



Harvest in cool part of the day.

Place in shaded area (or on tarpaulin to avoid contact with the soil)



11 Post-Harvest Handling



Passengers on the fruit



Heaping of fruits



Ratoon



Over crowding and poor maintenance



Thinning out weak and diseased suckers
Monitor growth



13 Sucker Production



Poor maintenance of sucker field



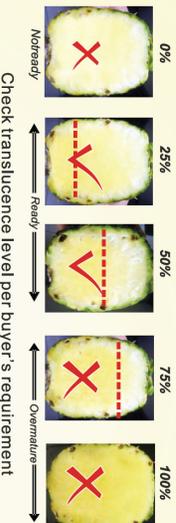
Weedy sucker field



Weed and prune sucker field



Check brix and transluence between 125-140 days after forcing



Check transluence level per buyer's requirement



(Brix of 13-15)

QUALITIES OF FRUIT FOR PROCESSING

Bad Qualities

Fully green, 90-100% yellow
Not firm, insect damage, physical damage
75-100% translucent, brown spot, over-ripped
Fermenting smell
Not sweet, too acidic
Soft, soggy, hard, & dry



EXTERNAL COLOUR

CONDITION
MATURITY
AROMA
FLAVOUR
TEXTURE

Good Qualities

40-90% yellow
Firm, No damage, clean
Attractive yellow, no discoloration, 25-50% translucent
Strong smell typical of mature pineapple
Very sweet, acceptable acidity
Firm, succulent, fibrous, juicy

