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28 Apr. - 3 Jun. 2020

Demo Plot # 10

Crops : Spinach (horenzo)

**Location of Demo Plot : SMK – PPN, Cikole
Lembang, West Java – Indonesia**

by Google Maps :

<https://maps.google.com/?q=-6.802638,107.628014>



Construction of a simple Green House, to maximize the growth of horenzo (spinach) which is very sensitive to sunlight and rain



Basic fertilizer :

**Super Chicken Manure
Vermicompost
Dolomit - Rock Pospat
Soil Conditioner**

H o r e n z o

Land Preparation

2 - 27 April 2020



Basic fertilizer	Konvensional	Integrated	Organik
Vermicompost	-	41.5 kg	99.6 kg
Chicken M. Super	1,600 kg	1,600 kg	1,600 kg
Pospat Alam	-	3.3 Kg	49.8 kg
Humic Acid	-	0.03 Kg	0.050 kg
herbagreen Z20	-	-	0.025 kg
DOLOMIT	16.67 kg	16.7 kg	24.90 kg
Asam Humate	20 ml	-	-
EM4	20 ml	-	-





Konventional

Integrated

Organic

H o r e n z o

P l a n t i n g

28 April 2020

*Seeds : Super Arlite
Plant. Dist. : 30 X 30 CM
Konventional : 916 Plants
Integrated : 744 Plants
Organic : 1180 Plants*

Maintenance fertilizer :

*Super Chicken Manure
Vermicompost
NPK*

*Dolomit - Rock Pospat
Chemical pesticides
Organic Pesticide
Soil Conditioner*





	<i>Konventional</i>	<i>Integrated</i>	<i>Organic</i>
1	11.8 cm (fibrous root)	12.5 cm (fibrous root)	12 cm (fibrous root)
2	2.5 cm (main root)	2.5 cm (main root)	4 cm (main root)

H o r e n z o
M a i n t e n a n c e
13 May 2020 (15 DAP)



Pest / Disease	Konventional	Integrated	Organic
Stem Rot	20	30	0
Caterpillar	13	5	0



H o r e n z o
Observation Data
13 May 2020 (15 DAP)



	Konventional				Integrated				Organic			
	Plant High (cm)		Number Of leaves		Plant High (cm)		Number Of Leaves		Plant High (cm)		Number Of Leaves	
	7DAP	15 DAP	7DAP	15DAP	7DAP	15DAP	7DAP	15DAP	7DAP	15DAP	7DAP	15DAP
1	8.0	9.0	9.9	15.2	8.0	12.0	9.4	16.2	7.0	11.0	9.5	18.5
2	8.0	11.0	10.0	14.0	8.0	12.0	9.6	15.4	7.0	10.0	9.4	15.5
3	8.0	12.0	10.2	17.8	8.0	13.0	10.0	16.2	8.0	11.0	9.2	14.6
4	8.0	11.0	9.3	11.0	8.0	14.0	9.8	18.2	8.0	14.0	10	18.6
5	7.0	11.0	8.9	12.7	7.0	10.0	9.3	16.0	8.0	12.0	9.6	14.4
6	7.0	11.0	10.0	15.2	8.0	12.0	9.6	18.0	8.0	10.0	9.3	13.5
	7.6	10.8	9.7	14.3	7.8	12.1	9.6	16.7	7.6	11.3	9.5	15.9



H o r e n z o

Waiting for the Harvest

28 April 2020 (30 DAP)



H o r e n z o

H a r v e s t

3 – 9 Jun 2020 (36 - 42 DAP)



H o r e n z o

H a r v e s t D a t a

Sample Plant Data (Kg)

	<i>Konventional</i>	<i>Integrated</i>	<i>Organic</i>
1.	0.152	0.112	0.132
2.	0.107	0.92	0.112
3.	0.80	0.186	0.152
4.	0.98	0.180	0.230
5.	0.115	0.105	0.181
6.	0.120	0.220	0.134
	0.112	0.149	0.157

Production per Plot (Kg)

<i>Konventional</i>	<i>Integrated</i>	<i>Organic</i>
49	65	96

H o r e n z o

Summary of Results Data

Harvest & Cost Data	Konventional	Integrated	Organic
Population (plants)	916	744	1180
Harvested Pop. (plants)			
% Harvested Population			
Total Yield (kg)	49	65	96
Yield per ha (ton)			
Income 210 kg X Rp. 10,000.- = Rp. 2,100,000.-			
Land Preparation Costs(Rp.)	1,983,334*	1,731,347*	1,991,454*
Maintenance Costs (Rp.)	935,000	523,220	523,100
Total Cost (Rp.)	2,918,334	2,254,567	2,514,554
Yield per plant (kg)	0.053	0.087	0,081
Cost per Plant (Rp.)	3,185	3,030	2,130
Cost (Rp./ha/year)			
Profit (Rp./ha/year)			

* Without the cost of green house and water installation



Land Preparation - Planting costs (without leasing land & labor)

10															
horengo															
250 M2															
6000 plants															
Needs :	konvensional 80 M2			integrated 80 M2			organic 89 M2			TOTAL					
	Q	Price	Rp.	Q	Price	Rp.	Q	Price	Rp.	Q	Rp.				
GH	-	Unit	-	5,833,333	-	Unit	-	5,833,333	-	Unit	-	5,833,333	1	Unit	17,500,000
water installation	-	Unit	-	333,333	-	Unit	-	333,333	-	Unit	-	333,333	1	Unit	1,000,000
seed / Nursery	2,080	bbt	250	520,000	2,080	bbt	250	520,000	2,080.00	bbt	250	520,000	6,240	bbt	1,560,000
Mulsa	0.3	roll	650,000	216,667	0.33	roll	650,000	216,667	0.33	roll	650,000	216,667	1	roll	650,000
Vermicompost	-	kg	-	-	42	kg	1,000	41,500	99.6	Kg	1,000	99,600	141.1	kg	141,100
Trichogramma	-	Schts	-	-	-	Schts	-	-	1.0	Schts	30,000	30,000	1.0	Schts	30,000
chicken manure Super	1,600	kg	417	666,667	1,600	kg	417	666,667	1,600	Kg	417	666,667	4,800.0	kg	2,000,000
Pospat Alam	-	kg	-	-	3	kg	5,500	18,260	49.8	Kg	5,500	273,900	53.1	kg	292,160
humic acid	-	kg	-	-	0.03	kg	600,000	19,920	0.050	Kg	600,000	29,880	0.083	kg	49,800
herbagreen Z20	-	kg	-	-	-	kg	-	-	0.025	Kg	600,000	14,940	0.025	kg	14,940
DOLOMIT	17	kg	2,000	33,333	17	kg	2,000	33,333	24.9	Kg	2,000	49,800	58.2	kg	116,467
Asam Humate EM4	2	Btl	150,000	300,000	-	Btl	-	-	-	Btl	-	-	2	Btl	300,000
EM4	2	Btl	40,000	80,000	-	Btl	-	-	-	Btl	-	-	2	Btl	80,000
NPK Mutiara	17	kg	10,000	166,667	12.5	kg	10,000	125,000	-	Kg	10,000	-	29.2	kg	291,667
													0		
Seed treatment :															
humic acid	-	Kg	-	-	0.10	kg	600,000	60,000	0.10	kg	600,000	60,000	0.20	kg	120,000
HG Protect F	-	Kg	-	-	0.05	kg	600,000	30,000	0.05	kg	600,000	30,000	0.10	kg	60,000
			8,150,000				7,898,013				8,158,120				24,206,133

Maintenance Costs (without labor)

6															
Horengo															
250 M2															
6000 plants															
Needs :	konvensional 83 M2			integrated 83 M2			organic 83 M2			TOTAL					
	Q	hrg	Rp.	Q	hrg	Rp.	Q	hrg	Rp.	Q	Rp.				
MIKROTAN/NPK	1.5	Pack	45,000	67,500	-	Pack	-	-	-	1.5	Pack	67,500			
Humic Acid	-	kg	-	-	0.20	Kg	600,000	120,000	0.40	Kg	600,000	240,000	0.60	Kg	360,000
Spraying :															
ATONIK	1.5	Btl	65,000	97,500	-	kg	-	-	-	-	-	-	1.5		97,500
Herbagreen Z20	-	kg	-	-	0.0166	kg	600,000	9,960	0.0332	Kg	600,000	19,920	0.050	Kg	29,880
HG Protect F	-	kg	-	-	0.0249	kg	600,000	14,940	0.0332	Kg	600,000	19,920	0.058	kg	34,860
Herbagreen Fluisan	-	Ltr	-	-	0.0008	Ltr	4,000,000	3,320	0.0008	Ltr	4,000,000	3,320	0.002	Ltr	6,640
Pesticide															
1. Reagent	1.0	Btl	150,000	150,000	-	Btl	-	-	-	Btl	-	-	1.0	Btl	150,000
2. Dithane M-45	1.0	Pack	125,000	125,000	1.0	Pack	125,000	125,000	-	Pack	-	-	2.0	Pack	250,000
3. Agrimex	1.0	Btl	190,000	190,000	1.0	Btl	190,000	190,000	-	Btl	-	-	2.0	Btl	380,000
4. Score	1.0	Btl	85,000	85,000	-	Btl	-	-	-	Btl	-	-	1.0	Btl	85,000
5. Agrept	1.0	Schts	115,000	115,000	-	Schts	-	-	-	Schts	-	-	1.0	Schts	115,000
6. Furadan 3 G	1.0	Pack	45,000	45,000	-	Pack	-	-	-	Pack	-	-	1.0	Pack	45,000
7. Siputox	1.0	Pack	35,000	35,000	1.0	Pack	35,000	35,000	-	Pack	-	-	2.0	Pack	70,000
8. HG Protect V	-	Ltr	-	-	-	Ltr	-	-	0.0249	Ltr	600,000	14,940	0.025	Ltr	14,940
9. Pestisida Nabati	-	Ltr	-	-	-	Btl	-	-	1.00	Btl	200,000	200,000	1.0	Btl	200,000
10. BOOSTER	0.33	Btl	75,000	25,000	0.33	Btl	75,000	25,000	0.33	Btl	75,000	25,000	1.0	Btl	75,000
			935,000				523,220				523,100				1,981,320

Application : Land Preparation - Harvesting

DAP	Konventional	Integrated	Organic
-10	- Chicken Manure Super - Vermicompost - Dolomit - Soil Conditoner - NPK - EM 4	- Chicken Manure Super - Vermicompost - Dolomit - Soil Conditoner - NPK - Rock Pospat - Humic Acid 85 %	- Chicken Manure Super - Vermicompost - Dolomit - Rock Pospat - Tricogramma - Humic Acid 85 % - Herbagreen Z20
0	Asam Humat + EM4	Humic Acid (0.100 Kg)	Humic Acid (0.100 Kg)
3	-	HG Protect F (0.050 Kg) Chemical Pesticides	HG Protec F (0.050 Kg) HG Protect V (0.0125 Ltr) Organic Pesticide
7	NPK Chemical Pesticides	Humic Acid (0.066 Kg) HG Z20 (0.0083 Kg) Chemical Pesticides	Humic Acid (0.133 Kg) HG Z20 (0.0166 Kg) Organic Pesticide
10	-	Humic Acid (0.066 Kg) HG Z20 (0.0125 Kg) HG Fluisan (0.0008 Ltr)	Humic Acid (0.133 Kg) HG Protect F (0.0166 Kg) HG Fluisan (0.0008 Ltr)
14	-	Humic Acid (0.066 Kg) HG Z20 (0.083 Kg) Chemical Pesticides	Humic Acid (0.133 Kg) HG Z20 (0.0166 Kg) HG Protect V (0.0125 Ltr)
18	-	HG Protect F (0.0125 Kg)	HG Protect F (0.0166 Kg)
20	NPK Chemical Pesticides		
30	NPK Chemical Pesticides		
35	NPK		

