

RATIONALE:

It is a common belief that high-value citrus can only be grown in semi-temperate areas; however, many of such high value citrus species are being grown in some of the backyards of the populace in Region I. The terrain and climate of the region is considered very favorable for some of the high value citrus species. Thus, this study was conducted to identify the most productive species of high value citrus to help supply the local demand for citrus in the country.

Highlights

- ❖ Citrus fruits are known for their wholesome and health-giving properties, having high Vitamin C and minerals composition.
- ❖ As to yield of oranges across years (six years of fruiting) result showed that year 2008 produced the highest yield with a mean of 82.53 kg/tree and Perante orange obtained the highest percentage survival with 91.11%.
- ❖ On the mean yield of pummelo across, (six years of fruiting) highest yield was obtained in 2010. At this stage, the pummelo trees had reached its optimum development stage to bear fruits. Red chandler recorded the highest percentage survival with 96.67% but did not differ significantly to Magallanes with 90.00% survival.
- ❖ For Mandarin, (six years of fruiting) year 2008 was the year of highest production. This might be attributes when a tree produced a heavy crop one year, called an “on crop”, followed by an “off crop” the next year. King mandarin maintained a 100% survival across years.
- ❖ Perante orange, Red Chandler, Siamese pummelo, Magallanes and King Mandarin gave the best performance as to yield, survival and positive net return, thus, recommended for planting.

Recommended High Value Citrus spp. for planting



Total Yield (kg/tree)	468.05
Weight per fruit (g)	1018.60
Flesh color	Pink
Sweetness (⁰ Brix)	12.75
Cost of Prod'n./ plant (₱)	1,616.23
Net Income/plant (₱)	12,425.27
ROI (%)	768.78

Magallanes



Total Yield (kg/tree)	674.33
Weight per fruit (g)	1,050.20
Flesh color	White
Sweetness (⁰ Brix)	11.95
Cost of Prod'n./ plant (₱)	1,616.23
Net Income/plant (₱)	3,778.41
ROI (%)	233.78

Siamese



Total Yield (kg/tree)	696.07
Weight per fruit (g)	882.00
Flesh color	Pink
Sweetness (⁰ Brix)	12.75
Cost of Prod'n./ plant (₱)	1,616.23
Net Income/plant (₱)	1,864.12
ROI (%)	115.00

Red Chandler



Total Yield (kg/tree)	243.00
Weight per fruit (g)	207.10
Flesh color	yellow
Sweetness (⁰ Brix)	16.00
Cost of Prod'n./ plant (₱)	1,680.00
Net Income/plant (₱)	3,242.77
ROI (%)	200.70

Perante



Total Yield (kg/tree)	468.05
Weight per fruit (g)	1018.60
Flesh color	orange
Sweetness (⁰ Brix)	12.00
Cost of Prod'n./ plant (₱)	1680.00
Net Income/plant (₱)	15,058.37
ROI (%)	931.69

King Mandarin

Insects Commonly Associated to High Value Citrus spp.

Insects	Scientific Name	Control measure
1. Aphids	<i>Aphis gossypii</i>	❖ Spray insecticides during flushing stage
2. Bark Borer	<i>Agrilus occipitalis</i> Exch.	❖ Spray on infested trunk and branches with copper sulfate
3. Caterpillar	<i>Papilio demoleus</i>	❖ Hand picking if population is low ❖ Spray insecticide if necessary
4. Fruitfly	<i>Dacros dorsalis</i> Hend.	❖ Collect and burry infested fruits for proper sanitation
5. Greenbug	<i>Phnchochoris longinostris</i> Stal.	❖ Spray insecticides
6. Leaf miners	<i>Phyccnistis citrella</i>	❖ Spray insecticides during flushing period
7. Mealybugs	<i>Planococcus citri</i>	❖ Spray insecticides during flushing period
8. Mites		❖ Spray appropriate acaricides or a sulfur-based fungicides
9. Rind borer	<i>Prays endocarpa</i> Meyr.	❖ Infested fruits burned/bury ❖ Spray insecticide during pre and post bloom stage
10. Scales	<i>Lepidosaphes beckii</i>	❖ Prune infested twigs and burn it ❖ Spray insecticide

Diseases Commonly Associated to High Value Citrus spp.

Diseases	Causal organism	Control Measure
Brown Rot Gummosis (Foot rot)	<i>Phytophthora parasitica</i> Dastur <i>P. citrophthora</i>	❖ Remove the affected bark ❖ Disinfect the exposed part of the trunk or roots with copper-based fungicides by painting the exposed wood with suitable sealing material ❖ Remove dead and infected trees and burn
Citrus scab	<i>Elsinoe faucei</i> Jenkins	❖ Spray of insecticides (copper-based fungicides)
Citrus canker	Caused by bacteria <i>Xanthomonas citri</i>	❖ Regular monitoring for timely and regular spraying with copper-based fungicide ❖ Sanitation

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Identified High-Value Citrus Species, Best Grown in Northern Philippines



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