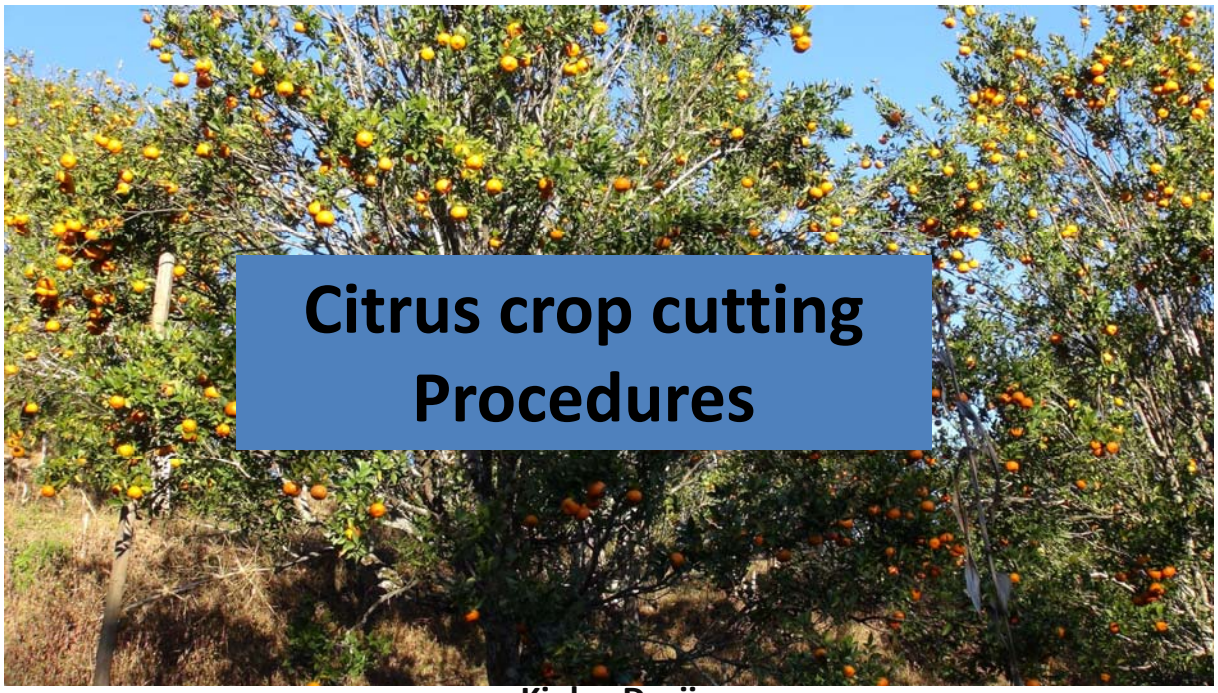

Citrus crop cutting Procedures

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Why crop cutting

- To make best estimates on yield and production
- To generate information for policy decision making
- To make appropriate orchard management decisions
- To forecast marketing scenarios (production, supply/demand, prices)

When to crop cut

- At the end of natural fruit drop
  - (November/December)
- Prior to harvesting
  - (December/ January)
- Crop load estimation
  - For crop management (fruit thinning, supply chain, planning) and marketing decision(price negotiation)
    - Flowering stage
    - fruit setting/development stage
    - Fruit maturity stage

At fruit color break stage

Estimation techniques / methods

Experienced eye - estimate based on

- Previous year production
- Flowering behavior
  - (unproductive stress induced flowering – flowering without simultaneous flushing
- Fruit development stages (cell division and elongation)

Counting frames – use of standard frame to determine volume of fruit in given area

Recommended technique

One tree count – fruit count for 3 trees (high, medium and low fruiting) determined and multiplied with number of trees

Material required

- Helper (assistant)
- Field note / note pad
- Weighing balance (sensitivity 0.1 gram)
- Vernier caliper
- Calculator
- Harvesting clipper (2 nos)
- Sampling bags (zipped plastic bag)
- Harvesting ladder
- Harvesting bag/ basket

Procedure (One tree count)

- Identify 2 representative orchards (along altitude gradient)
  Avoid choosing abnormally high or low performing orchards in locality
- Visually sample 9 trees with different crop load from each orchard (3 heavy, 3 medium and 3 low)
  (avoid choosing non bearing trees / trees with extremely low fruits)

Low fruiting **Medium fruiting** **Heavy**

Procedure (One tree count) Contd.

- Count entire number of fruits per tree and note down in data sheet.
- Randomly sample 10 fruits x 3 lots fruits from each tree identified against category.
- Weigh and note fruit weight of 10 fruits for each tree sampled
- For fruit size - measure fruit size (length and diameter)
- Enter the data and calculate as shown below in recording sheet

Data recording sheet

Orchard	Crop load Category	Tree	Number of bearing trees (nT)	Fruit count per tree (nF)	10 fruit weight (x)	Single fruit weight (FW= x/10)	Fruit weight per tree {FWT = FW*nF}	Total Production (gm) (TP = FWT * nT)	Yield (gm) (TP/nT)
A	Heavy	1							
		2							
		3							
	Medium	1							
		2							
		3							
	Low	1							
		2							
		3							
B	Heavy	1							
		2							
		3							
	Medium	1							
		2							
		3							
	Low	1							
		2							
		3							

Calculation

- **Yield per tree** (in kg)

  = (Yield A + Yield B)*500

- **Yield per acre** (in tons) =

  = {Yield per tree (kg) * 110}/1000

  where 110 is no. of trees per acre space at 6m by 6m spacing

- **Production** (in tons)

  = {Yield per trees (kg) X No. of bearing trees}/1000

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