

Protecting Trees With Windbreaks

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**High value
hardwoods that
developed in areas
with high humidity
and little wind may
need wind protection.**

Purpose Of Windbreaks

- **Protect new plantings**
- **Prevent wind throw**
- **Minimize breakage**
- **Maintain straight trunks**



Criteria To Consider

- **Species**
- **Layout and spacing**
- **Site preparation**
- **Planting**
- **Maintenance**
- **Other products and uses**



Species

- **Rapid growth**
- **Adapted to site**
- **Non-invasive**
- **Pest-free**
- **Taller than crop**
- **Density of 50%-80%**
- **Other products**



Brush box
*Lophostemon
confertus*

Neem

Azadirachta indica



Eucalyptus spp.



Norfolk Island Pine

Araucaria spp.



'Tropic Coral' *Erythrina*



Native or Natural Forest



Layout and Spacing



- **Plant perpendicular to wind**
- **Space Windbreaks 10 X ht.**
- **Consider alternatives**
 - **Space closer than 10 x ht.**
 - **Plant secondary windbreak**

Casuarina Spaced



Sorghum x Sudan



Site Preparation



- **Sufficient for success**
- **Amount depends on site**
- **Eliminate competition and hard pan**

Planting



- **Plan ahead**
- **Consider plastic mulch**
- **Use high quality stock**
- **Irrigate as needed**
- **Fertilize as needed for rapid growth**


Maintenance



- **Replace dead plants ASAP**
- **Irrigate as needed**
- **Fertilize as needed**
- **Control competition**
- **Protect from pests, grazing, and fire**

References

- Protecting trees with windbreaks. Bob Joy. In: *Growing working forests for Hawaii's Future*.
- Multipurpose windbreaks: Design and species for Pacific Islands. Kim Wilkinson and Craig Elevitch. In: *Agroforestry Guides for Pacific Islands*.



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