



Pacific Pests, Pathogens & Weeds - Mini Fact Sheet Edition

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Papaya & celery boron deficiency (191)



Photo 1. Lumpy papaya fruit with symptoms of boron deficiency.



Photo 2. Lumpy papaya fruit with symptoms of boron deficiency.



Photo 3. Splits across celery stalks (petioles), characteristic of boron deficiency.



Photo 4. Internal rots of young leaves and bud of celery, resulting from boron deficiency.

Summary

- Worldwide distribution. On papaya and celery, but boron deficiency also occurs in many other plants, for instance, brassicas (e.g., broccoli, cauliflower, turnip), sweetpotato, and palms. An important deficiency.
- On papaya - deformed fruits, sometimes with cracks oozing latex, and stunted, brittle claw-like leaves.
- On celery - splits across leaf bases, and wet rots on inner leaves.
- Normal boron level in leaves is >25 ppm.
- Cultural control: add composts, if this fails, have soil analysis done to compare boron with K, N and Ca, and check pH. Add borax as follows: (i) for papaya - spray/drench with 0.3% borax or 0.5g/tree, or spray root area (may need to increase up to 5g per tree); (ii) for celery - 2 g borax per m^2 at 2 and 6 weeks.

Common Name

Lumpy fruit of papaya, brown heart of celery

Scientific Name

Boron deficiency

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Information from Nelson S. *Boron deficiency of papaya*. Department of Plant and Environmental Protection Services, College of Tropical Agriculture and Human Resources, University of Hawai'i at Manoa. Photo 3 Bill Mansour, Oregon State University. Photo 4 Kohler F, Pellegrin F, Jackson G, McKenzie E (1997) *Diseases of cultivated crops in Pacific Island countries*. South Pacific Commission. Pirie Printers Pty Limited, Canberra, Australia.

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