

## **Appendix I. Terms used to describe modular growth in avocado.**

*Acrotony.* Form of apical control which results in release of subterminal axes from suppression (see also apical control and apical dominance).

*Annual growth module.* All shoot modules developed during the current annual growing period, on a shoot module formed during the previous year. Includes one or more rhythmic growth modules.

*Apical bud.* Terminal bud on shoot axis; includes the apical meristem, leaf primordia and bud scales.

*Apical control.* Mechanism determining relative dominance of axillary growth axes (see also apical dominance and acrotony).

*Apical dominance.* Suppression of growth of axillary buds by the parent apical bud from which they developed (see also apical control and acrotony).

*Architectural tree model.* Abstract model of the dynamic, genetically determined growth plan of a tree. Represents the fully developed complex plan of the assembly of growth modules into a coherent construction.

*Bud-scar ring.* Group of scars left by dehisced bud scales from a former resting bud, located at the junction between two growth modules.

*Growth flush.* Period of growth involving rapid shoot expansion and elongation.

*Growth module.* Discrete unit of growth in architectural tree models, includes shoot modules, rhythmic growth modules and annual growth modules.

*Hypopodium.* Basal section of shoot between shoot base and first node.

*Orthotropy.* Gravitational response which produces a vertical axis with radial symmetry  
(cf plagiotropy).

*Plagiotropy.* Gravitational response which produces an oblique or horizontal axis with dorsiventral symmetry (cf orthotropy).

*Primary growth axis.* Major growth axis in a shoot system; may exhibit orthotropy.

*Prolepsis.* Development of an axillary shoot after a period of dormancy as a resting bud (cf syllepsis); *proleptic shoot modules* develop from a resting bud and hence have a bud-scar ring at their base.

*Reproductive shoot module* (= compound inflorescence). Proleptic shoot module that has developed from a resting bud containing floral initials.

*Resting bud.* Fully developed bud undergoing a period of rest before further growth.

*Rhythmic growth.* Episodic or seasonal shoot extension (flush) alternating with periods of rest.

*Rhythmic growth module.* All shoot modules (proleptic and sylleptic) developed during a single growth flush on a shoot module formed during a previous growth flush.

*Shoot module* (= shoot). Lowest order growth module; morphologically distinct unit of extension, developed during a single growth flush from an individual bud or bud primordium; includes sylleptic, proleptic, vegetative and reproductive shoot modules (see also shoot unit).

*Shoot unit.* Shoot module with no apical bud, which subtends shoot module(s) formed during a subsequent growth flush.

*Syllepsis.* Development of an axillary shoot without a period of dormancy as a resting bud, i.e. development is contemporaneous with its parent axis (cf prolepsis); *sylleptic shoot modules* develop directly from bud primordia; they have a long hypopodium and do not have a bud-scar ring at their base.

*Vegetative shoot module.* Shoot module (proleptic or sylleptic) with no reproductive development.

## **Appendix II. List of publications prepared in association with this thesis.**

Thorp, T.G. 1990: Research notes from a kiwi in Australia. New Zealand Avocado Growers' Association, Scientific Research and Technical Supplement **9** :11-14.

Thorp, T.G. 1991: Report from Second World Avocado Congress, California, April 1991. New Zealand Avocado Growers' Association, Scientific Research and Technical Supplement **11** :19-23.

Thorp, T.G. 1991: Overseas Travel Report; California, 9 April to 3 May, 1991. DSIR Report :12.

Thorp, T.G. and Sedgley, M. 1992: Shoot growth and tree architecture in a range of avocado cultivars. **In** C.J. Lovatt, P.A. Holthe, M.L. Arpaia (eds), Proceedings of the Second World Avocado Congress, April 1991 (Orange, California) :237-240.

Thorp, T.G. and Sedgley, M. 1992: Architectural analysis of tree form in a range of avocado cultivars. Scientia Horticulturae **53** :85-98.

Thorp, T.G., Aspinall, D. and Sedgley, M. 1993: Preformation of node number in vegetative and reproductive proleptic shoot modules of *Persea* (Lauraceae). Annals of Botany **72**(5).

Thorp T.G., Aspinall, D. and Sedgley, M. 1993: Influence of shoot age on floral development and early fruit set in avocado (*Persea americana* Mill.) cv 'Hass'. Journal of Horticultural Science **68**(4)

Thorp T.G. and Sedgley, M. 1993: Manipulation of shoot growth patterns in relation to early fruit set in 'Hass' avocado (*Persea americana* Mill.). Scientia Horticulturae **53**.

Thorp, T.G., Aspinall, D., and Sedgley, M. : A mini-review of avocado (*Persea americana* Mill.) tree architecture. Scientia Horticulturae (in preparation).