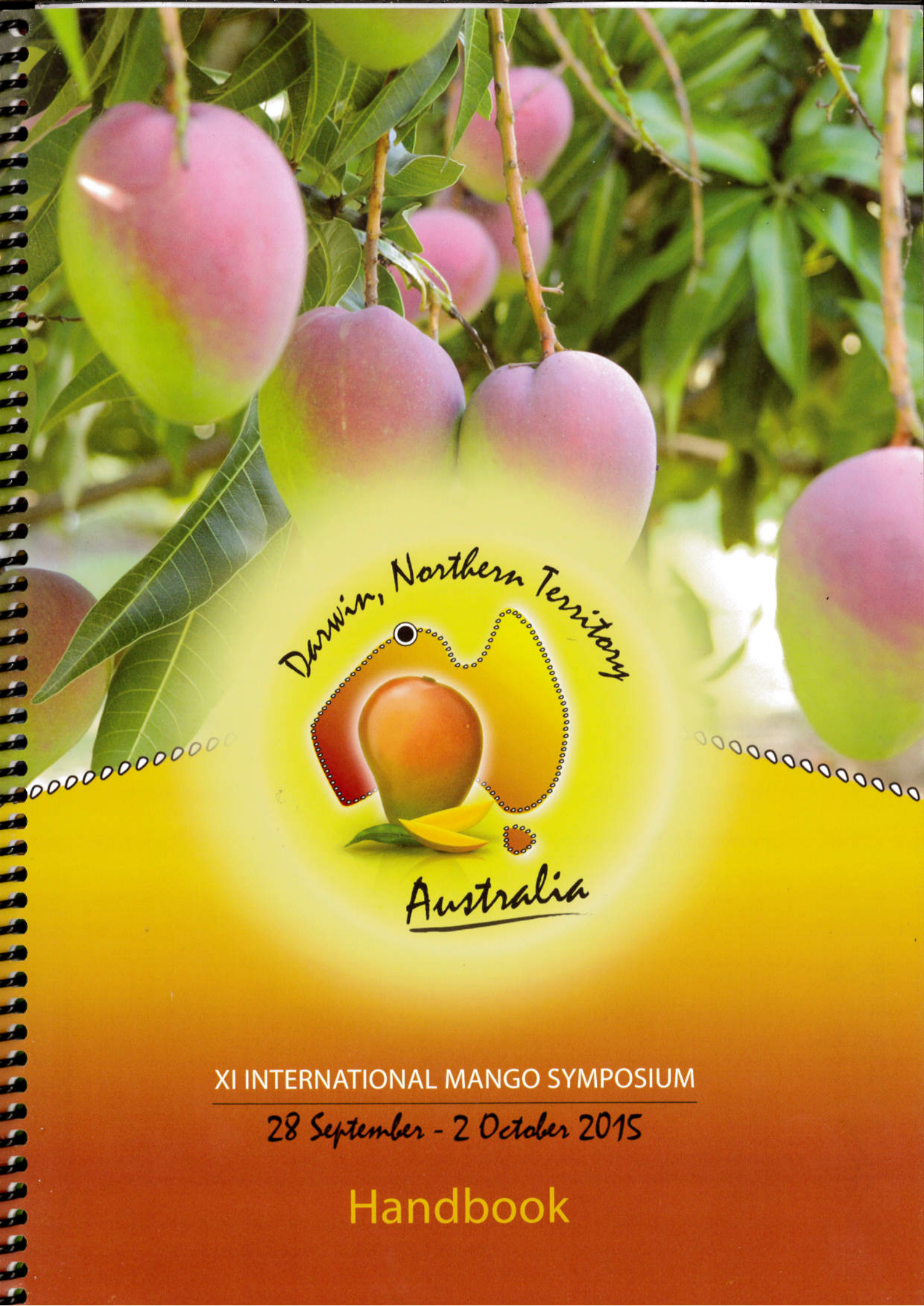

XI INTERNATIONAL MANGO SYMPOSIUM

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Handbook

mango relatives and most information in the literature was derived from herbarium specimens. Information collected includes colour, petal number, hermaphrodite/male ratio, aroma, and panicle architecture. The study was conducted from November 2012 to January 2013 and again from November 2013 to February 2014, which coincides with the flowering season of these species. Inflorescences were randomly selected from each tree, photographed and drawn for evaluation of flowering morphology structure of the 7 species. In terms of floral morphology, they all have differing percentages of hermaphrodite and male flowers; 5 to 6 petals; range in colour from cream to white, burgundy and red; aromas from lilacs to jasmine; and variable panicle branching patterns. *Mangifera casturi*, *Mangifera lalijiwa*, *Mangifera rubrapatela*, *Mangifera zeylanica* and *Mangifera lauraina* have more hermaphrodite flowers than *M. odorata*, and M. sp 'Rampgani'. Hermaphroditic to male ratios were greater in these two species in both years. *Mangifera casturi* has hermaphrodite flowers (74%). and male flowers (24.5%). *Mangifera lalijiwa* has hermaphrodite flowers (71%). and male flowers (26%), *Mangifera rubrapatela* has hermaphrodite flowers (88%) and male flowers (12%), *Mangifera lauraina* has (62%) and male flowers (38%), compare with *Mangifera odorata* than had (21%) hermaphrodite flowers and *Mangifera sp.* (*'Rampagni'*) with (15%) of hermaphrodite flowers. The relationship between hermaphrodite and male flowers are discussed as well as the ramifications for breeding and fitness as parents for crosses with *Mangifera indica*.

The growing conditions do not affect the allometric estimation of fresh fruit weight, but affect the estimation of dry fruit weight of the Kent mango

Jeanne Diatta[1], Jean-Yves Rey[2], Bassirou Sine[3], Frederic Normand[2]
[1]ISRA-CDH, BP 3120, Dakar, Senegal, [2]Cirad, France [3]CERAAS, BP 3320, Thies Escale, Thies, Senegal

An essential aspect of studies on fruit growth is the accurate and nondestructive on-field estimation of key variables of interest such as fresh or dry fruit weight. Allometric relationships between a key variable of interest and one or several easy-to-measure variables that are used as predictors are convenient and powerful tools for this goal. However, these relationships could be affected by different factors. Allometric relationships were built to assess fresh and dry fruit weight of mango, cv. Kent, and the effects of growing conditions on these relationships were investigated. Length (L), orthogonal diameters (D1, D2), fresh and dry weights were recorded on individual fruits sampled at three dates during fruit growth in six orchards, one irrigated orchard in Réunion island and five irrigated and non-irrigated orchards in Senegal. Allometric relationships were estimated between fresh and dry fruit weights and the product LD1D2. The relationship between fresh fruit weight and LD1D2 was linear and unaffected by the growing conditions. The relationship between dry fruit weight and LD1D2 was allometric, i.e. followed a power function. It was then linearised by log-transformation of the two variables. The growing conditions did not affect the slope of this relationship, but affected the y-intercept. The y-intercepts estimated for each orchard were significantly explained by the fruit dry matter content that was also affected by the growing conditions. These results are discussed with regard to the significance of the studied relationships, and to the limits of the allometric method to estimate fruit weight.

Effects of vegetative growth on flowering and fruiting at the tree, scaffold branch and growth unit levels. Implications for irregular bearing studies

Mathilde Capelli[1], Pierre-Eric Lauri[2], Frédéric Normand[1]
[1]Cirad, La Reunion, France

The productivity of most of tropical and temperate perennial fruit crops, in particular the mango tree, is limited by irregular bearing. Studies on irregular bearing generally tackle the effects of fruit production in one year on flowering and fruiting in the following year, and do not consider vegetative growth between fruiting seasons. However, strong reciprocal relationships between vegetative and reproductive growth have been evidenced in some fruit species, suggesting they are involved in irregular bearing. Four mango cultivars with contrasted fruit bearing patterns were investigated, Cogshall, Kensington Pride, Irwin and José. We studied the relationships between vegetative growth and reproduction at the tree, scaffold branch and terminal growth unit scales. Vegetative growth was quantified at those scales by the number of new growth units set up during the vegetative growth season preceding flowering. Reproduction was assessed at those scales by the rate of flowering and the rate of fruiting. The relationships obtained were mostly cultivar-dependent and the following results are general trends. At the growth unit scale, we observed positive relationships between vegetative growth and flowering, but no relationship between vegetative growth and fruiting. At the scaffold branch scale, we observed few positive relationships