

Publications

Dr Wiebke Kämper

<https://orcid.org/0000-0002-8646-4492>

Grower articles and outreach communication (last updated 27.02.2024)

12. Kämper W. (2023) Pollen limitation and pollen parentage determine crop production in a cultivated mass-flowering tree. *Talk at the 52nd GfÖ - Conference of the German Ecological Society*.
11. Kämper W, Nichols, J, Burwell, C, Trueman SJ. (2022) Mango pollination: levels of self-pollination and cross-pollination among Kensington Pride and Calypso fruit. *Mango Matters*. Edition: Winter 2022
10. Kämper W, Wallace, H, ..., Trueman SJ. (2022) Levels of self-pollination and cross-pollination among fruit on a Queensland strawberry farm. *Australian Berry Journal*. Edition: Winter 2022
9. Trueman S, De Silva, A, Kämper W, ..., Ogbourne, S (2022) Pollen parentage of nuts during premature nut drop: do self-pollinated nuts drop and cross-pollinated nuts remain? *Australian Macadamia Society Ltd News Bulletin*, Edition: Winter 2022
8. Bai, SH, Kämper W, ..., Khoshelham, K (2021) Predicting the ripening time of Hass and Shepard avocado fruit using machine vision technology. *Talking Avocados*, Edition: Spring 2021
7. Kämper W, Thorp G, ..., Trueman SJ. (2021) The advantages of self-fertile almonds. *In a Nutshell*. Edition: Winter 2021
6. Kämper W, Ogbourne S, Hawkes D, Trueman S (2021) The proportion of self-pollinated Hass fruit increase with increasing distance from another cultivar. *Talking Avocados*. Edition: Autumn 2021
5. Trueman S, De Silva, A, Kämper W, ..., Wallace H (2021) Cross-pollination versus self-pollination: effects on nut size and kernel recovery. *Australian Macadamia Society Ltd News Bulletin*, Edition: Spring 2021
4. Trueman S, Kämper W, ..., Wallace H (2019) *Better cross-pollination increases whole tree yields*. *Australian Nutgrower*, Edition: Spring 2020
3. Trueman S, Kämper W, ..., Wallace H (2019) *The results are in: most nuts come from cross-pollination*. *Australian Macadamia Society Ltd News Bulletin*, Edition: Autumn 2019
2. Trueman S, Kämper W, ..., Wallace H (2019) *The latest results are in: whole-tree yields can be increased with better cross-pollination*. *Australian Macadamia Society Ltd News Bulletin*, Edition: Spring 2019
1. Trueman S, Kämper W, ..., Wallace H (2019) *Cross-pollination or self-pollination – that was the question*. *Nut Grower*, Edition: Spring 2019

International peer-reviewed publications (last updated 27.02.2024)

27. Trueman SJ, Penter MG, ..., Kämper W (2024) High outcrossing levels among global macadamia cultivars: implications for nut quality, orchard designs and pollinator management. *Horticulturae* 10, 203. DOI: 10.3390/horticulturae10030203; Significance: Growers should consider closely interplanting cultivars and distributing bee hives throughout the orchard.
26. Kämper W, Nichols J, ..., Trueman SJ (2023) Flower visitors, levels of cross-fertilisation, and pollen-parent effects on fruit quality in mango orchards. *Agronomy* 13: 2568. DOI: 10.3390/agronomy13102568;

Significance: Higher-than-expected levels of cross-fertilisation suggest strategies are in place that circumvent inbreeding depression.

25. Hapuarachchi NS, ..., Kämper W, ..., Bai SH (2023) Hyperspectral imaging of adaxial and abaxial leaf surfaces for rapid assessment of foliar nutrient concentrations in Hass avocado. *Remote Sensing* 15: 3100. DOI: 10.3390/rs15123100; Significance: Rapidly optimising crop productivity through precise fertiliser inputs.
24. Davur YD, Kämper W, ..., Bai SH (2023) Estimating the ripeness of Hass avocado fruit using deep learning with hyperspectral imaging. *Horticulturae* 9: 599 DOI: 10.3390/horticulturae9050599; Significance: Predicting the ripeness stage of fruit to reduce food waste along the supply chain.
23. Han Y, Bai SH, ..., Kämper W (2023) Predicting the ripening time of 'Hass' and 'Shepard' avocado fruit by hyperspectral imaging. *Precision Agriculture* 00(0): 00 DOI: 10.1007/s11119-023-10022-y; Significance: Hyperspectral imaging presents a tool to sort freshly harvested fruit to reduce food waste.
22. De Silva AL, ..., Kämper W, ..., Trueman SJ (2023) Hyperspectral imaging of adaxial and abaxial leaf surfaces as a predictor of macadamia crop nutrition. *Plants* 12(3): 558. DOI: 10.3390/plants12030558; Significance: Rapid nutrient assessment presents an opportunity for optimising crop productivity through precise fertiliser inputs.
21. Kämper W, Dung CD, ..., Trueman SJ (2022) High self-paternity levels and effects of fertilised-seed number on size of strawberry fruit. *PLOS ONE* 17(9): e0273457. DOI: 10.1371/journal.pone.0273457; Significance: Deposition and amount of self-pollen determines strawberry size.
20. Trueman SJ, Kämper W, ..., Wallace HM (2022) Pollen limitation and xenia effects in a cultivated mass-flowering tree, *Macadamia integrifolia* (Proteaceae). *Annals of Botany* 129: 135-146. DOI: 10.1093/aob/mcab112; Significance: First study to demonstrate pollen limitation in a mass-flowering tree.
19. De Silva AL, Kämper W, ..., Trueman SJ (2022) Boron effects on fruit set, yield, quality and paternity of macadamia. *Agronomy*. 12: 684. DOI: 10.3390/agronomy12030684; Significance: High B concentration in flowers increased initial fruit set but not yield.
18. Bai SH, ..., Kämper, W, ..., van Zwieten, L (2022) Combined effects of biochar and fertilizer applications on yield: a review and meta-analysis. *Science of the Total Environment*. 808: 152073. DOI: 10.1016/j.scitotenv.2021.152073; Significance: Biochar plus inorganic fertiliser increased yield by 35%.
17. Hapuarachchi NS, Kämper W, ..., Trueman SJ (2022) Boron effects on fruit set, yield, quality and paternity of Hass avocado. *Agronomy*. 12: 1479. DOI: 10.3390/agronomy12061479; Significance: Applying the recommended amount of boron is significant to receiving a good yield of high-quality avocado fruit.
16. Cannizzaro C, ..., Kämper W, ..., Wallace HW (2022) Forest landscapes increase diversity of honeybee diets in the tropics. *Forest Ecology and Management*. 504: 119869. DOI 10.1016/j.foreco.2021.119869; Significance: Importance of trees for bee bread diversity in the tropics.
15. Kämper W, Ogbourne SM, Hawkes D, Trueman SJ (2021) SNP markers reveal relationships between fruit paternity, fruit quality and distance from a cross-pollen source in avocado orchards. *Scientific Reports*. 11: 20043. DOI: 10.21203/rs.3.rs-123913/v1; Significance: Development of novel SNP markers superior to existing microsatellite markers.
14. Kämper W, Trueman SJ, Ogbourne SM, Wallace HM (2021) Pollination services in a macadamia cultivar depend on across-orchard transport of cross pollen. *Journal of Applied Ecology* 58: 2529-2539. DOI: 10.1111/1365-2664.14002; Significance: Orchard design determines transfer of cross pollen and yield.

13. Kämper W, Trueman SJ, ..., Ogbourne SM (2021) Single-nucleotide polymorphisms that uniquely identify cultivars of avocado (*Persea americana*). *Applications in Plant Sciences* 9(6): e11440. DOI: 10.1002/aps3.11440; Significance: ddRADseq is a useful tool to identify SNPs between genetically very similar genotypes.
12. Kämper W, Thorp G, ..., Trueman SJ (2021) Pollen paternity can affect kernel size and nutritional composition of self-incompatible and new self-compatible almond cultivars. *Agronomy* 11, 326. DOI: 10.3390/agronomy11020326; Significance: Not all self-fertile genotypes are good candidates for establishing monovarietal orchards.
11. Ambarli D, ..., Kämper W, ..., Blüthgen N (2021) Animal-mediated ecosystem process rates in forests and grasslands are affected by climatic conditions and land-use intensity. *Ecosystems* 24, 467–483. DOI: 10.1007/s10021-020-00530-7; Significance: Climate change and land use present risks for ecosystem processes.
10. Kämper W, Trueman SJ, ..., Bai SH (2020) Rapid determination of nutrient concentrations in Hass avocado fruit by Vis/NIR hyperspectral imaging of flesh or skin. *Remote Sensing* 12, 3409. DOI: 10.3390/rs12203409; Significance: Food waste can be reduced by sorting avocados based on their postharvest properties.
9. Richards TE, Kämper W, ..., Bai SH (2020) Relationships between nut size, kernel quality, nutritional composition and levels of outcrossing in three macadamia cultivars. *Plants* 9:228. DOI: 10.3390/plants9020228; Significance: Nut size is not a determining factor for nutritional value.
8. Elliot B, ..., Kämper W, Wallace HM (2020) Pollen diets and niche overlap of honey bees and native bees in protected areas. *Basic and Applied Ecology* 50, 169-180. DOI: 10.1016/j.baae.2020.12.002; Significance: Importance of sufficient floral resources to sustain floral resources for native pollinators, despite competing with honey bees.
7. Bottrill D, ..., Kämper W, Bai SH (2020) Short-term application of mulch, roundup and organic herbicides did not affect soil microbial biomass or bacterial and fungal diversity. *Chemosphere* 244:125436. DOI: 10.1016/j.chemosphere.2019.125436; Significance: Importance of herbicides choice for weed control in riparian zone revegetation
6. Kämper W, Kaluza BF, ..., Leonhardt SD (2019) Habitats shape the cuticular chemical profiles of stingless bees. *Chemoecology* 29:125–133. DOI: 10.1007/s00049-019-00282-4; Significance: Importance of a diverse environment in providing resin sources for defence against antagonists.
5. Kämper W, Blüthgen N, Eitz T (2017) Bumblebee footprints on bird's-foot trefoil uncover increasing flower visitation with land-use intensity. *Agriculture, Ecosystems & Environment* 240:77–83. DOI: 10.1016/j.agee.2017.02.013; Significance: Bumblebee footprints are a useful tool to analyse bumblebee-flower interactions of otherwise difficult to monitor plants.
4. Kämper W, Weiner C, ..., Blüthgen N (2017) Evaluating the effects of floral resource specialization and of nitrogen regulation on the vulnerability of social bees in agricultural landscapes. *Apidologie* 48:371–383. DOI: 10.1007/s13592-016-0480-4; Significance: Resource use does not determine the land-use response of social bees.
3. Kämper W, Werner PK, ..., Leonhardt SD (2016) How landscape, pollen intake and pollen quality affect colony growth in *Bombus terrestris*. *Landscape Ecology* 31(10):2245–2258. DOI: 10.1007/s10980-016-0395-5; Significance: Woody plants need to be protected to provide a stable food supply for bumblebees throughout the season.
2. ter Haar SM, Kämper W, ..., ten Cate C (2014) The interplay of within-species perceptual predispositions and experience during song ontogeny in zebra finches (*Taeniopygia guttata*). *Proceedings of the Royal Society B: Biological Sciences* 281(1796):20141860. DOI: 10.1098/rspb.2014.1860; Significance: Songbirds as a model emphasise the importance of perceptual preferences and plasticity in acquiring speech.

1. Kämper W, Webb JK, ..., Shine R (2012) Behaviour and survivorship of a dasyurid predator (*Antechinus flavipes*) in response to encounters with the toxic and invasive cane toad (*Rhinella marina*). *Australian Mammalogy* 25(2):136. DOI: 10.1071/AM12025; Significance: Aversive learning can be used to prepare native mammals from spreading, toxic cane toads.