

[Home](#) > [Journal](#) > [Earth & Environmental Sciences](#) > [AS](#)
[Indexing](#) | [View Papers](#) | [Aims & Scope](#) | [Editorial Board](#) | [Guideline](#) | [Article Processing Charges](#)
[AS](#) > Vol.2 No.3, August 2011



## Mango malformation: II. mangiferin changes associated with *fusarium* pathogens

PDF (Size: 505KB) PP. 291-296 DOI : 10.4236/as.2011.23038

### Author(s)

Wafaa M. Haggag, Mahmoud Hazza, Mohamed E. Abd El-Wahab

### ABSTRACT

Mangiferin (1,3,6,7-tetrahydroxy xanthone-C2-b-D-glucoside) promoted vegetative growth and exhibited inhibitory role on the occurrence of malformation. Mangiferin changes associated with mango malformation pathogens were followed after inoculated mango seedlings (three years) with malformation pathogens i.e. *Fusarium subglutinans*, *F. sterilihyphosum*, *F. oxysporum* and *F. proliferatum*. Mangiferin remained at lower level in leaves of malformed shoots as compared to healthy one. The floral malformation was observed to be associated with the reduction of mangiferin. Strong positive correlations between mangiferin activity and malformation incidence were observed. Mangiferin level at panicle initiation may give a possible estimate of malformation incidence in mango.

### KEYWORDS

Fusarium; Mangiferin; Mango Malformation

### Cite this paper

Haggag, W. , Hazza, M. and El-Wahab, M. (2011) Mango malformation: II. mangiferin changes associated with *fusarium* pathogens. *Agricultural Sciences*, 2, 291-296. doi: 10.4236/as.2011.23038.

### References

- [1] R.C. Ploetz, Malformation: a unique and important disease of mango, *Mangifera indica* L. In: Summerell, B.A., Leslie, J.F., Backhouse, D. and Bryden, W.L. (eds) *Fusarium*: Paul E. Nelson Memorial Symposium. American Phytopathological Society (APS) Press, St Paul, Minnesota, 2001 pp. 233– 247.
- [2] S. Ghosal, D.K. Chakrabarti and K.C. Basuchaudhary, Control *Fusarium* wilt of sunflower by mangiferin. *Phytopathology* 67, 1977, 548-550.
- [3] Chakrabarti D.K., A. Singh and K. Singh, Physiological and biochemical changes induced by accumulated Mangiferin in *Mangifera indica*, *J. of Horticultural Sciences* 65(6), 1990. 731-737.
- [4] R. Kumar and D.K. Chakrabarti, Biochemical evidence of physiological specialization of *Fusarium moniliforme* Sheld, the incitant of malformation disease of *Mangifera indica* L., *Indian J. of Experimental Biology* 30(5), 1992. 448-450
- [5] D.K. Chakrabarti and R.C. Sharma. Mango malformation: relation of mangiferin concentration in differentiating buds to abnormal inflorescence of *Mangifera indica*, *Annals of Plant Protection Sciences* 1(1), 1993, 51-53.
- [6] D.K Chakrabarti, R. Kumar and S. Kumar, Interaction among *Fusarium moniliforme*, *Tyrollichus casei* and mangiferin as related to malformation of *Mangifera indica*, *Tropical Agriculture* 74(4), 1997, 317-320.
- [7] P. Talamond, L. Mondolot, A. Gargadennec, A. S. Hamon, A. Fruchier, and C. Campa, First report on mangiferin (C-glucosyl-xanthone) isolated from leaves of a wild coffee plant, *Coffea pseudozangubariae* (rubiaceae). *Acta Bot. Gallica*, 155(4), 2008. 513-819.
- [8] E. Joubert, Reversed- phase HPLC determination of mangiferin, Isomangiferin and hesperidin in

- [Open Special Issues](#)
- [Published Special Issues](#)
- [Special Issues Guideline](#)

[AS Subscription](#)
[Most popular papers in AS](#)
[About AS News](#)
[Frequently Asked Questions](#)
[Recommend to Peers](#)
[Recommend to Library](#)
[Contact Us](#)

Downloads:	145,384
------------	---------

Visits:	316,974
---------	---------

[Sponsors, Associates, and Links >>](#)

- [2013 Spring International Conference on Agriculture and Food Engineering \(AFE-S\)](#)

Cyclopia and the effect of harvesting date on phenolic composition of *C. genistoides*. Frank Otto, Sabine Gruner, Bernd Weinreich. *Eur. Food Res. Technol.* 216, 2003, 270-273.

- [9] R. Kumar and D.K. Chakrabarti, Mango malformation: effect of mangiferin on morphology and parasitism in *Fusarium moniliforme*. *Proceedings of National Symposium On Sustainable Agriculture in*