

## **TOP ESP – Aspectos funcionais da morfologia de frutos e sementes**

**21 – 25 setembro 2009**

Status: eletiva  
Créditos: 02  
Carga horária: 30 h

### **Professores responsáveis**

Wolfgang Stuppy e Isolde D. K. Ferraz

### **Ementa**

O tópico especial foi especialmente elaborado com a finalidade de fornecer aos participantes um entendimento da estrutura, evolução e ecologia dos frutos e sementes. Com os conhecimentos advindos deste curso, os estudantes poderão classificar e tipificar os frutos e sementes tropicais da Amazônia, auxiliando estudos em dispersão e predação de frutos e sementes e na avaliação do banco de sementes do solo.

Morfologia de frutos (frutos de angiospermas e gimnospermas, critérios de classificação e tipos de frutos). A morfologia e anatomia de sementes (sementes de angiospermas e gimnospermas, tipos de óvulos, desenvolvimento da semente, morfologia interna das sementes, anatomia dos envoltórios das sementes, aspectos funcionais dos envoltórios das sementes, indicadores da maturidade de frutos e sementes e dispersão de sementes).

### **Sugestões bibliográficas**

- Armstrong, W.P. A nonprofit natural history textbook dedicated to little-known facts and trivia about natural history subjects. [www.waynes-word.com](http://www.waynes-word.com)
- Baskin, C.C. & Baskin, J.M. 1999: Seeds - ecology, biogeography, and evolution of dormancy and germination. San Diego, California, Academic Press.
- Bell, A.D. 1991: Plant form - an illustrated guide to flowering plant morphology. Oxford University Press.
- Boesewinkel, F.D. & Bouman, F. 1984: The Seed: Structure. In: Embryology of angiosperms (ed. B.M. Johri), pp. 567-610, Heidelberg, Springer Verlag, 1984;
- Boesewinkel, F.D. & Bouman, F. 1984: The Seed: Structure. In: Embryology of angiosperms (ed. B.M. Johri), pp. 567-610. Springer Verlag, Heidelberg.

- Boesewinkel, F.D. & Bouman, F. 1995: The Seed: Structure and Function. Chap. 1 in Seed Development and Germination, eds. J. Kigel and G. Galili. New York, Dekker.
- Boesewinkel, F.D. & Bouman, F. 1995: The Seed: Structure and Function. In: Seed Development and Germination (eds. J.Kigel & G.Galili), pp. 1-24. Marcel Dekker, New York.
- Bouman, F. 1984: The ovule. In: Johri, J.B. (ed.): Embryology of the angiosperms, pp. 123-157. Springer Verlag, Berlin, Heidelberg, New York, Tokyo.
- Cooper, W. & Cooper W.T. 2004: *Fruits of the Australian Tropical Rainforest*. Nokomis Publications, Clifton Hill, Australia.
- Corner, E.J.H. 1976: *The seeds of dicotyledons*. Cambridge University Press, Cambridge.
- Esau, K. 1965: Plant Anatomy, 2nd ed. John Wiley & Sons, Inc., New York, London, Sydney.
- Fahn, A. 1990: Plant Anatomy. 4<sup>th</sup> ed. Pergamon Press, Oxford. See Ch. 20, The Fruit; Ch. 21, The Seed.
- Johri, B.M. (ed.) 1984: Embryology of angiosperms. Springer Verlag, Berlin, Heidelberg, New York.
- Johri, B.M., Ambegoakar, K.B. & Srivastava, P.S. 1992: Comparative embryology of angiosperms. Vol 1 + 2. Springer Verlag, Berlin, Heidelberg, New York, Tokyo.
- Kessler, R. & Stuppy, W. 2006: Seeds- Time Capsules of Life. Papadakis Publisher, London.
- Martin, A.C. 1946: The Comparative Internal Morphology of Seeds. American Midland Naturalist 36, 513-660.
- Purves, W.K., Sadava, D., Orians, G.H., Heller, H.C. 2002: Life: The Science of Biology, 6th edition by Sinauer Associates and WH Freeman.
- Raven, P.H., Evert, R.F. & Eichhorn, S.E. 1999. Biology of plants, W.H. Freeman, New York.
- Roth, I. 1977: Fruits of Angiosperms. Encyclopaedia of Plant Anatomy, X, 1. Berlin, Borntraeger.
- Spjut, R.W. 1994. A Systematic Treatment of Fruit Types. Memoirs of the New York Botanical Garden Volume 70: 181 pp.
- Stuppy, W. & Kessler, Rob 2009: *Fruit - Edible, Inedible, Incredible*. Papadakis Publisher, London.
- Werker, E. 1997: Seed anatomy. Borntraeger, Berlin, Stuttgart (Encyclopedia of plant anatomy, Vol. 10, Part 3.