

International Coffee Organization  
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## Seminar on Genetically Modified Coffee

- Opening remarks -

Ezzeddine Boutrif, Chairperson  
(Chief, Food Quality & Standards Service, FAO)

## GM coffee research

Work on transgenic coffee only started in 1993 – this is a relatively young area of research


- **Delayed / uniform ripening coffee**
  - | 1999 - University of Hawaii first US patent involving part of coffee genome
  - | Ethylene to trigger final ripening stage
- **Bt (*Bacillus thuringiensis*) coffee**
  - | CIRAD and Nestlé developed transgenic plant resistant to coffee leaf miner
  - | Field trials of robusta in French Guyana
- **Caffeine 'free' coffee**
  - | Nara Institute of Science and Technology, Japan modified robusta in 2003 using RNA interference
  - | First harvest expected 2006/2007; caffeine levels reported reduced by 70%
  - | Caffeine free coffee also worked on by University of Hawaii
- **Other areas of investigation**
  - | Nematode resistant coffee
  - | Others?



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## Discussion areas


- Impact and potential of shift from labour intensive to capital intensive genetic types
  - | e.g. introduction of uniform ripening GM coffee?
- Non-target effects – ecology and biodiversity concerns
  - | e.g. risk of *Bt* cross-pollination if planted in Africa?
- Long-term effectiveness of transgenic plants
  - | e.g. breakdown in resistance for *Bt* coffee?
- Consumer and producer reactions to GM coffee
  - | e.g. ethical, ecological, socio-economic, political, health concerns?
- The economics of GM coffee
  - | e.g. would there be any real savings over current methods in introducing caffeine free coffee?



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## Discussion areas

- Role of producer countries in biotechnology programmes
  - | e.g. capacity of India, Brazil and Colombia, amongst others?
- What should be the roles and interactions of private and public sector R&D?
- What form should state-led regulation of transgenic coffee take?
- How safe is 'safe' in the context of uncertainty?
- What is the role of GM coffee/biotechnology re: development challenges facing developing countries?
- The wider debate: local-level concerns and wider international processes – the future of science, technology, food and farming



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