ARTEMISININ CONFERENCE, VIETNAM

Technical breakout group report

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2 additional technical presentations

(1) Professor Ajit Varma, Amity University

(a) Mycorrhizal Fungus: Piriformospora sp.

- Growth promotion by recycling soil nutrients
- Inoculant gives 2.5 fold increase in artemisinin content

(b) Tinospora cordifolia:

- New antimalarial plant

Results to be published

(2) Professor M.Z. Abdin, Jamia Hamdard University

- Genetic manipulation of A. annua raises artemisinin content from 0.65% to 1.25%
- GOI approval being sought for field trials

High yielding A. annua seeds

(1) CNAP

- 1st generation hybrids will be available for 2012 planting in Africa (2013 in China)
- Tested in as near as possible realistic field conditions
- Realising yield potential is closely linked to field management standards
- Early results should be available for 2012 Artemisinin Conference (if it is held!)

(2) NIAB

- Good experience in Madagascar
- Also in Vietnam (200 ha planted)
- This experience should not be lost

Agronomic Field Research on Artemisia annua

- Results of Mediplant trials eagerly awaited (expected early 2012)
- Adaptive trials in realistic field conditions are essential

Artemisinin Extraction Facilities

- Current extraction capacity is sufficient for size of expected market
- WHO should register all approved artemisinin extractors
- Extractors should accept involvement with whole supply chain

Artemisinin resistance

- Issue is resistance management
- Fight against sub-standard drugs and monotherapy
- Clear statement needed on future of artemisinin in relation to :
    - Malaria vaccine
    - Alternative drugs
    - Synthetics
    - Semi-synthetics

New antimalaria drugs

(a) Semi-synthetic artemisinin:
clear statement by manufacturers on their production and pricing policy would help natural artemisinin producers:

- Provides stability in market and price
- Avoids fear of natural production being undermined
- Gives basis for calculating fair price for artemisinin
- Clarifies basis for decision on scale of production

(b) Synthetic artemisinin

- Lack of communication by MMV is a concern

(c) Possible use of artemisinin drugs against other diseases

(d) Valuable role for proposed Artemisinin Association to coordinate information on future of market and expected time frame.

Technical issues and developments

Summary of a presentation and discussion based on presentation by Dr Herbert Schmidt from WHO.

- Remit of WHO: Safety of patients and affordability of medicine
- Developing guidelines for artemisinin as a starting material for API production.
  - Inputs by stakeholders – mainly API producers
  - Evaluation of proposals by independent experts – selected by WHO at regional levels and gender balance.
- Circulation of documents:
  - Limit circulation with focus on relevant issues
  - Users of specifications include countries which do not have their own regulatory development systems – e.g. most of Africa, South East Asia and South America

- Artemisinin and related reference standards: to be available by March 2012 through European Directorate for the Quality of Medicine (EDQM)
  - Some samples already available: Artenimol, artemotil, artether and artesunate

- Recommendations and comments on Guidelines for use of artemisinin as a starting material, made at last year's Artemisinin conference in Madagascar, have been fully incorporated in the revised version.

- Revision of Monograph for artemisinin under review and a draft document expected to be circulated next year for comments. It will incorporate a correction factor for artemisitene.