





MANAGING THE COFFEE BERRY BORER

THE INDIAN EXPERIENCE

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COFFEE BOARD OF INDIA



INDIA
States and Union Territories

CULTIVATED AREA : 388,195 HA.
ARABICA : 184,418 HA
ROBUSTA : 203,777 HA.

NORTH-EASTERN COFFEE GROWING STATES 5,761 HA

Total holdings: 2.10 lakh

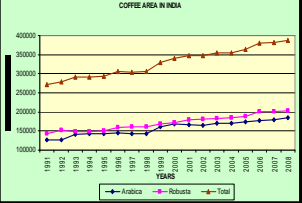

Small holdings : 2.08 lakh (99% below 10 Ha)

ANNUAL PRODUCTION - ABOUT FIVE MILLION BAGS


NON-TRADITIONAL COFFEE GROWING STATES - 40,916 HA.

TRADITIONAL COFFEE GROWING STATES - 3,41,518 HA.

COFFEE AREA IN INDIA

COFFEE ESTATE




Size of holdings

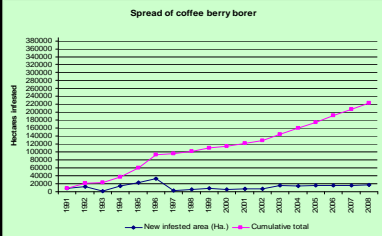


THE COFFEE BERRY BORER PROBLEM

- FIRST NOTICED ON AN ESTATE DURING FEBRUARY, 1990
- THEN SPREAD GRADUALLY TO OTHER AREAS
- NOW PRESENT IN MOST OF THE TRADITIONAL COFFEE AREAS



Spread of coffee berry borer



CBB MANAGEMENT PROGRAMME

PHASE I (1990-95) -

SURVEYS, AWARENESS PROGRAMMES, SCHEME TO PROVIDE PESTICIDE AND SPRAY EQUIPMENT AT SUBSIDISED RATE, INITIATION OF VARIOUS STUDIES ON CBB MANAGEMENT

PHASE II (1995-98) -

IMPLEMENTATION OF THE PROJECT - NATIONAL MISSION ON CONTROL AND PREVENTION OF COFFEE BERRY BORER

PHASE III (1998-2001) -

CFC/ICO/02 - INTEGRATED MANAGEMENT OF COFFEE BERRY BORER

CBB MANAGEMENT PROGRAMME

PHASE - I (1990-95) MAJOR ACTIVITIES

- SURVEYS IN ASSOCIATION WITH THE DIRECTORATE OF PLANT PROTECTION, QUARANTINE & STORAGE, STATE DEPARTMENTS OF AGRICULTURE/HORTICULTURE, UPASI AND ASSOCIATIONS
- IMPLEMENTATION OF TWO PLAN PROJECTS
- BIO-CONTROL OF COFFEE BERRY BORER
- IMPORT OF TWO PARASITOIDS FROM MEXICO
- AWARENESS CAMPAIGNS BY EXTENSION NETWORK
- RESEARCH ON BIO-ECOLOGY AND MANAGEMENT

PHASE - II (1995-98)

NATIONAL MISSION ON CONTROL AND PREVENTION OF CBB

- DECLARED AS A NATIONAL PEST BY THE MINISTRY OF COMMERCE
- COMPRISING OF RESEARCH AND EXTENSION COMPONENTS
- MANAGE THE PEST IN AFFECTED AREAS AND CONTAIN THE SPREAD
- R & D PROGRAM - EVALUATING AND UPGRADING IPM TECHNOLOGIES
- INTERNATIONAL COLLABORATION
- STUDIES ON THE BIO-ECOLOGY OF THE PEST
- TRIALS ON CHEMICAL AND CULTURAL COMPONENTS OF MANAGEMENT
- BIO-CONTROL USING FUNGAL PATHOGEN AND EXOTIC PARASITIDS

PHASE - II (1995-98)

NATIONAL MISSION ON CONTROL AND PREVENTION OF CBB

EXTENSION ACTIVITIES

- MASS AWARENESS PROGRAMMES THROUGH -
- DOOR TO DOOR CAMPAIGNS
- GROUP GATHERINGS / MEETINGS AT VILLAGE LEVEL
- ESTABLISHMENT OF IPM PLOTS
- PUBLICITY THROUGH MASS MEDIA LIKE NEWS PAPER, RADIO AND TELEVISION
- MATERIAL ASSISTANCE TO THE SMALL GROWER BY WAY OF SUPPLY OF PESTICIDES, SPRAYERS AND PICKING MATS AT SUBSIDISED RATES

SIGNIFICANT LEADS

- THE BIO-ECOLOGY OF CBB UNDER INDIAN CONDITIONS STUDIED
- IMPORTANCE OF CULTURAL OPERATIONS ON MANAGEMENT OF CBB
- *BEAUVERIA BASSIANA*, THE INDIGENOUS FUNGAL PATHOGEN WAS FOUND TO BE A PROMISING BIO-CONTROL AGENT
- TWO EXOTIC PARASITIDS, *CEPHALONOMIA STEPHANODERIS* AND *PROROPS NASUTA* INTRODUCED FROM MEXICO
- PARASITIDS REARED AND RELEASED. ONLY *C. STEPHANODERIS* ESTABLISHED IN THE FIELD

SIGNIFICANT ACHIEVEMENTS

- CREATED AWARENESS AMONG COFFEE GROWERS IN THE INFESTED AND NON-INFESTED AREAS
- GROWERS CONVINCED ABOUT EFFECTIVENESS OF CONTROL MEASURES THROUGH DEMONSTRATION PLOTS ALL OVER THE INFESTED AREAS
- SUPPLY OF PESTICIDE AND SPRAYERS TO THE SMALL GROWERS RESULTED IN EFFECTIVE MANAGEMENT OF THE PEST IN THIS SECTOR
- THE USE OF PICKING MAT WHILE HARVESTING WAS POPULARISED THROUGH SUPPLY AT SUBSIDISED RATE

PHASE III (JANUARY – 1998 TO – DECEMBER -2001)

CFC/ICO/02- INTEGRATED MANAGEMENT OF COFFEE BERRY BORER

- FIVE ENTOMOLOGISTS TRAINED ON MASS BREEDING OF PARASITIDS AT THE CENICAFE, COLOMBIA
- RECEIVED CULTURES OF *PHYMSTICHUS COFFEA* AND *PROROPS NASUTA* FROM CENICAFE, COLOMBIA
- THREE SCIENTISTS TRAINED ON FPM APPROACHES AT CATIE, NICARAGUA
- INTRODUCED FPM IN CBB MANAGEMENT. LATER ADOPTED AS A PART OF THE REGULAR EXTENSION PROGRAMME OF THE ICB
- INTRODUCED PROGRAMME ON WOMEN EMPOWERMENT IN COFFEE CULTIVATION
- DEVELOPED MASS TRAPPING TECHNIQUE AND POPULARISED

BEAUVERIA BASSIANA - COFFEE BERRY BORER STRAIN



PAR BOILED RICE



FUNGUS DEVELOPING ON RICE



PURE SPORE – CAN BE STORED UP TO FOUR YEARS WITHOUT LOSS OF VIABILITY




B. BASSIANA – FIELD INFECTION



FUNGUS ON CBB

80% SUPPRESSION IF APPLIED AT THE CORRECT TIME



USING PICKING MATS WHILE HARVESTING



INCREASE IN GLEANINGS INCREASES INCIDENCE IN THE NEW CROP

USE OF PICKING MATS REDUCES GLEANINGS BY 72%


RESULTS IN 71% REDUCTION OF INFESTATION IN THE NEW CROP

INCREASES PICKING EFFICIENCY BY 48%


MANPOWER REQUIRED FOR GLEANING COLLECTION REDUCED BY 43%

USING OIL COATED POLYTHENE SHEET




FUNNEL TRAP



PLASTIC CAN TRAP




FUNNEL TRAP MADE FROM BOTTLE TOPS



BOTTLE TRAP

TRAPPING ADULT BERRY BORER



THE NEW 'BROCA' TRAP



THE NEW 'BROCA' TRAP

MADE OUT OF HIGH DENSITY POLYPROPELENE

USER FRIENDLY AND DURABLE

EASILY TRANSPORTABLE

RECOMMENDED AT 40 FEET SPACING – 67 TRAPS PER HECTARE

COST OF TRAPS = INR 12/- (GBP 0.17; US \$ 0.24)
 COST PER HECTARE = INR 804 (GBP 11.5; US\$ 16)
 COST OF LURE = INR 100/LITRE (GBP 1.4; US \$ 2)

1 GBP = INR 70; 1 US \$ = INR 50

RECOMMENDED MANAGEMENT PRACTICES

- Prune/handle bushes
- Regulate shade
- Timely harvest
- Clean and thorough harvest
- Spread picking mats while harvesting
- Remove left over fruits and gleanings
- Dry coffee to the specified moisture level
- Install traps around drying yard to trap escaping beetles
- Do not mix partially dried gleanings and fresh fruits while drying
- Get the coffee bags properly fumigated

