

COMMERCIAL PRODUCTION OF MICROBIALS BY REUTER LABORATORIES, INC., FOR CONTROL OF THE GYPSY MOTH AND THE SPRUCE BUDWORM.

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REUTER LABORATORIES ANNOUNCES ADDITIONS TO ITS LINE OF MICROBIAL INSECTICIDES WITH THE 1984-85 INTRODUCTION OF A BACILLUS THURINGIENSIS, BERLINER, VARIETY KURSTAKI (HD-1, H-3A3B) WETTABLE POWDER FORMULATION. GYPSY MOTH NUCLEOPOLYHEDROSIS VIRUS, IN EXPERIMENTAL PRODUCTION SINCE 1982, IS SCHEDULED FOR COMMERCIAL INTRODUCTION AS A WETTABLE POWDER IN THE 1985-86 SEASON.

COMPANY HISTORY

REUTER LABORATORIES, INC., A VIRGINIA CORPORATION, HAS PRODUCED MICROBIAL INSECTICIDES AND OTHER BIORATIONAL PRODUCTS SINCE ITS ORGANIZATION IN 1974. ITS FIRST AND LARGEST SELLING PRODUCT IS MILKY SPORE POWDER, COMPOSED OF THE BACTERIAL SPECIES BACILLUS POPILLIAE DUTKY AND B. LENTIMORBUS DUTKY. IN THE ABSENCE OF IN VITRO FERMENTATION METHODOLOGIES, THESE BACTERIA MUST BE PRODUCED BY THE COLLECTION, INOCULATION AND SUBSEQUENT INCUBATION OF THE WHITE GRUBS OF THE JAPANESE BEETLE, POPILLIA JAPONICA NEWMAN. THE ANNUAL PROCESSING OF THOUSANDS OF JAPANESE BEETLE GRUBS REPRESENTS A CONSIDERABLE INVESTMENT IN BOTH CAPITAL AND PROFESSIONAL EXPERIENCE AND IS THE BASIS FOR THE EXPANSION OF REUTER LABORATORIES INTO OTHER MARKET AREAS. THE INTRODUCTION OF THE JAPANESE BEETLE SUPER TRAP, COMPLETE WITH FLORAL AND SEX PHEROMONE ATTRACTANT BAITS, ALLOWS HOME OWNERS, ON AN INDIVIDUAL OR COMMUNITY BASIS, TO CONTROL JAPANESE BEETLE POPULATIONS WITHOUT THE USE OF CHEMICAL PESTICIDES.

IN 1980, REUTER LABORATORIES INTRODUCED A PRODUCT CONTAINING NOSEMA LOCUSTAE CANNING SPORES, A MICROSPORIDIAN DISEASE ORGANISM FOR THE CONTROL OF CERTAIN GRASSHOPPERS AND CRICKETS, TO THE HOME USE MARKET. SINCE 1981, THIS MICROBIAL INSECTICIDE HAS BEEN FORMULATED BY REUTER IN THE FREEZE-DRIED STATE, CRYOPRESERVED IN SERUM VIALS UNDER A NITROGEN ATMOSPHERE. THE NOSEMA SPORES ARE REHYDRATED AT THE POINT OF USE AND APPLIED TO A BRAN BAIT FOR THE CONTROL OF GRASSHOPPER OR CRICKET POPULATIONS ON SMALL PLOTS, GARDENS OR AGRICULTURAL AND RANGELAND AREAS.

IN ITS FIRST VENTURE INTO FERMENTATION MICROBIALS, BMC-BIOLOGICAL MOSQUITO CONTROL, A WETTABLE POWDER FORMULATION OF BACILLUS THURINGIENSIS BERLINER, VARIETY ISRAESENSIS (H-14), WITH 1750 INTERNATIONAL UNITS OF ACTIVITY PER MILLIGRAM OF FINISHED PRODUCT WAS INTRODUCED IN 1983 AND IS CURRENTLY MARKETED TO THE HOME CONSUMER IN A 4 OUNCE PACKAGE.

IN OCTOBER, 1983, CONTROLLING INTEREST IN REUTER LABORATORIES, INC., WAS ACQUIRED BY OTF EQUITIES, INC., A PUBLICLY HELD COMPANY WHOSE STOCK IS TRADED IN THE OVER-THE-COUNTER MARKET IN THE DETROIT, MICHIGAN, AREA. UNDER NEW MANAGEMENT, REUTER LABORATORIES HAS COMPLETED A PROGRAM OF PRODUCT AND MARKET ANALYSIS AND HAS BEGUN THE CONSTRUCTION OF EXPANDED OFFICE, INSECTARY, FERMENTATION AND PRODUCTION FACILITIES. WITH THE APPLICATION OF YEARS OF ACQUIRED EXPERIENCE AND EMPLOYMENT OF ADDITIONAL PROFESSIONAL STAFF REUTER ANTICIPATES THE INTRODUCTION OF AN EXPANDED LINE OF BIORATIONAL PEST CONTROL PRODUCTS.

BACILLUS THURINGIENSIS KURSTAKI WETTABLE POWDER

IN LATE 1984 REUTER LABORATORIES WILL RELEASE A WETTABLE POWDER FORMULATION OF B. THURINGIENSIS, BERLINER, VARIETY KURSTAKI (HD-1, H-3A3B) WITH 3200 INTERNATIONAL UNITS OF ACTIVITY PER MILLIGRAM OF FINISHED PRODUCT. LABELS SUBMITTED TO EPA FOR APPROVAL ARE IN FOUR COMMODITY AREAS:

1. BKT-VEGETABLE WORM AND CATEPILLAR CONTROL FOR USE ON GREENHOUSE AND GARDEN VEGETABLES AND FIELD CROPS,
2. BKT-LAWN MOTH CONTROL FOR USE AGAINST SOD WEB-WORM AND RANGELAND CATEPILLARS,
3. BKT-FRUIT AND NUT TREE CATEPILLAR CONTROL, AND
4. BKT-SHADE TREE, ORNAMENTAL AND FLOWER CATEPILLAR CONTROL.

THE LAST TWO LABELS WILL SPECIFICALLY TARGET GYPSY MOTH LARVAE, AMONG OTHER APPROPRIATE LARVAL LEPIDOPTERAN SPECIES, WITH INITIAL TREATMENT RECOMMENDED WHEN LARVAE ARE YOUNG AND LEAF EXPANSION IS AT THE 40% STAGE. RETREATMENT WILL BE RECOMMENDED 7 TO 10 DAYS LATER. UNDER APPROPRIATE CONDITIONS OF POPULATION DENSITY AND AGE, THE SPRUCE BUDWORM WILL ALSO BE TARGETED FOR CONTROL ON THE FOURTH LABEL.

GYPSY MOTH NUCLEOPOLYHEDROSIS VIRUS WETTABLE POWDER

INITIAL PRODUCTION OF A FREEZE DRIED GYPSY MOTH NPV PRIMARY PRODUCT AT REUTER LABORATORIES OCCURRED IN 1982. SUBSEQUENT RESEARCH EFFORTS HAVE BEEN DIRECTED TOWARD PROPRIETARY IMPROVEMENTS IN VARIOUS AREAS OF PRODUCTION AND FORMULATION. VIRUS ACTIVITY IS EXPECTED TO BE MAXIMIZED BY CRYOGENIC MILLING AND PRODUCT EFFECTIVENESS EXTENDED BY THE USE OF NEW STICKING AGENTS AND UV PROTECTANTS. FIELD TESTS OF THE REUTER GYPSY MOTH NPV PRODUCT WERE SCHEDULED IN VIRGINIA FOR 1984 AS PART OF A COOPERATIVE PROGRAM. THAT STUDY IS NOW RESCHEDULED FOR 1985 DUE TO A SHORTAGE OF STATE FUNDS. PENDING THE OUTCOME OF THESE FIELD TRIALS AND OTHER ECONOMIC FACTORS, INTRODUCTION OF THE REUTER GYPSY MOTH VIRAL INSECTICIDE IS ANTICIPATED FOR THE 1986 SEASON.

ECONOMIC CONSIDERATIONS FOR COMMERCIALIZATION

VIRAL INSECTICIDES DO NOT HAVE AN ENCOURAGING REPUTATION WITH RESPECT TO COMMERCIALIZATION. IN THIS RESPECT THE ORIENTATION OF THE REUTER LABORATORIES MARKETING PROGRAM MAY MEDIATE IN FAVOR OF THEIR DEVELOPMENT. DUE TO THE CYCLICAL NATURE OF GYPSY MOTH POPULATION EXPANSIONS AND CONTRACTIONS, INSECTARY AND PRODUCTION FACILITIES FULLY UTILIZED FOR GYPSY MOTH NPV MANUFACTURE DURING YEARS OF PEAK DEMAND WOULD BE UNDERUTILIZED IN THOSE YEARS WHEN THE POPULATIONS WERE LOW. IF VIRAL INSECTICIDES WITH SUBSTANTIAL GROWER AND HOME OWNER APPEAL, AS FOR EXAMPLE THE GRANULOSIS VIRUS OF THE CODLING MOTH, COULD BE DEVELOPED AND SUCCESSFULLY MARKETING TO BOTH OF THESE CONSUMER GROUPS, THEN THEY COULD BE MANUFACTURED DURING PERIODS OF MINIMAL DEMAND FOR THE GYPSY MOTH PRODUCT. THIS ALTERNATIVE USE OF PRODUCTION FACILITIES APPEARS TO BE AN ESSENTIAL FACTOR WHICH MAY ENSURE THE ECONOMIC VIABILITY OF GYPSY MOTH NPV PRODUCTION.