Arizona Cotton Research And Protection Council

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To: Sharlene Matten

From: Larry Antilla

Subject: September 8, 2006 Request for additional information.

VOLUME 2 SAMPLING AND TRAPPING DATA-SUPPLEMENT

	COCHISE	GRAHAM	GREENLEE	MARICOPA	PINAL	PIMA	TOTAL
BT	2,126.00	23,435.30	546.10	29,833.06	89,045.83	9,182.10	154,168.39
TOTAL NON-BT	0.00	1,873.60	463.50	1,811.70	6,451.16	864.60	11,464.56
TOTAL	2,126.00	25,308.90	1,009.60	31,644.76	95,496.99	10,046.70	165,632.95

	TOTAL ACRES	PERCENT	TOTAL FIELDS	TOTAL TRAPS
BT	154,168.39	100.00%	4,292	3,541
TOTAL NON-BT	11,464.56	6.92%	334	1,000
TOTAL	154,168.39	100.00%	4,292	3,541

TRAP DENSITY

NON-BT COTTON

- 1 trap per ten acres or 1 trap per field on fields less than ten acres.

BT

- 1 trap per forty acres on small contiguous blocks of fields with out biological separation.
- 1 trap per eighty acres on large contiguous blocks of fields with out biological separation.

TRAP PLACEMENT

Protocol calls for traps to be placed at or near the northeast corner of the field in a protected location (near a permanent structure such as a telephone pole). If a field has more than one trap, the traps are evenly spaced and numbered in a counter clockwise manner. Traps are placed as near to the field edge as possible while not obstructing the movement of equipment in and out of the field. Traps are attached to a wooden survey stake in order to maintain traps at canopy height.

TRAP SERVICE

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Traps are regularly serviced once each week unless environmental conditions are prohibitive i.e. moisture soaked terrain inaccessible by 4 wheel drive. When a trap is serviced the entire trap is removed and a new trap with a new Pink Bollworm pheromone lure is placed in the trap. The "old" trap is labeled with the service date and the crop stage. Trap locations are bar-coded and each "new" trap is labeled with the field number and trap number. Traps are baited a with rubber dispenser impregnated with a 4 mg dose of Shinitsu Corporation ***Hexadecadienyl acetate*** (Gossyplure, Pheromone) that has been subjected to field bioassay for field activity by USDA personnel.

The traps removed from the field are transported to the field offices in a protected manor for identification.

MOTH IDENTIFICATION

Traps are brought in from the field each week; identifiers stationed at each field office inspect each trap. All Pink Bollworm moths are counted and recorded as either "native" or "sterile". The sterile pink bollworms are dyed red through the media they are fed in the rearing facility. The trapping date (date the trap was removed from the field), field number, trap number and crop stage are all recorded along the "native" and "sterile" counts for entry into the database. Any questionable determinations regarding the identity of moths are forwarded to the principle identifier.

At the discretion of program management and as readily available samples for Dr. Tim Dennehy's Extension Arthropod Resistance Management Laboratory (EARML), moths are saved for testing related to BT resistance or genetic identity. The moths collected for these functions are placed in alcohol and kept in a freezer to protect from deterioration until testing can be completed.

BOLL SAMPLING

Boll sampling is conducted on randomly selected fields or pairs of fields throughout the program area to determine representative infestation levels. When possible, a BT and a NON-BT field in close proximity at the randomly selected location are included. The purpose of this exercise is to approximate the approach taken in Arizona since 1998 wherein, randomly selected paired BT and NON-BT fields were intensively sampled late season for comparative infestation levels and resistance monitoring.

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BOLL SAMPLING (continued)

Based on trapping information, history and targeted field inspection, other fields are checked for boll infestation as needed. Program personnel make these decisions by dedicating the majority of our resources on field based activities whereby anomalies are isolated and investigated to the benefit of the producers in the program. Due to the targeted approach in this instance any findings are neither representative nor random and therefore statistically not indicative of program wide infestation levels.

Sampling each of the four thousand six hundred and twenty six fields each week is not logistically or economically feasible and would certainly be undesirable to producers in the program.

The initial boll survey sampling was performed for 4 sampling cycles (1 sample every other week). Additional sampling will be conducted using boll boxes. Boll boxes data is much more reliable as bolls are picked and then placed in boxes (cages) and stored at controlled temperatures until any organisms inside the bolls have emerged and can be counted.

STERILE/NATIVE TRAPPING DATA

By statute, all growers within the program area must report NON-BT cotton in a timely manner. BT cotton reporting is not legally required and therefore must be ground proofed by program personnel. Circumstances do exist wherein late planted or unreported cotton results in data beginning the week after traps are deployed.

Trapping data is not a self contained gauge of populations. Pheromone traps are subject to hindrance from many biological, environmental and seasonal influences. Inherent variability in trapping information from specific trap location data must be evaluated as an aggregate from multiple data points to be meaningful per the maps provided by Dave Bartel and the statistical data model. Moth numbers found in traps are not directly proportionate to release levels on that field or the surrounding area. Native populations in the program area are still very high. Native and Sterile females produce pheromone which competes with the traps. As the native populations become less significant the pheromone traps will become more consistent population indicators as individual data points. As discussed in the trapping section above, there are periodic instance where traps cannot be accessed, in these instances no data is available.

STERILE/NATIVE TRAPPING DATA-continued

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As indicated in the trapping section of this document, BT fields are grouped together in regards to trap allocation. Not every BT field has a trap directly assigned to it however; traps are distributed through the region to produce a representative sample of the region and all of the fields therein. Trapping each BT cotton field individually is cost prohibitive and logistically impossible within the constraints of the Pink Bollworm Eradication Program. This approach is in strict contrast to non eradication program grower practices where BT cotton is not monitored with pheromone traps.

All fields have received sterile release every week on timetable with minor variations due to weather and or chemical treatment. Chemical treatment only affects sterile release on NON-BT cotton as BT cotton is not treated with chemical or pheromone treatments. Sterile release has been unremitting once sterile release began. No release days have been compromised due to mechanical failure, moth supply or due diligence. Sterile moths in excess of **1,137,012,553** have been released over Arizona BT and NON-BT cotton as of September 5, 2006 within the Pink Bollworm Eradication Program.

VOLUME 1 TREATMENT DATA TABLE 1-SUPPLEMENT

- "PBW Pheromone rope" is synonymous with PB-Rope L ***((Z,Z)-7,11-Hexadecadien-1-yl Acetate 46.7% (Z,E)-7,11-Hexadecadien-1-yl Acetate 44.1%)*** (Gossyplure, Pheromone). PB-Rope L is a high rate dispenser that is distributed throughout the field at a rate of 200 dispensers per acre. The dispensers are applied several different ways. Dispensers are either hand tied to the plants, wrapped on a bamboo stick and placed in the planted row by hand or, wrapped and on a bamboo stick and mechanically inserted into the planted row. PB-Rope L is a 60-90 pheromone mating disruption treatment.
- Dual indicates a dual treatment including a mating disruption pheromone constituent such as NoMate PBW fiber ***((Z,Z)-7,11 -Hexadecadien-1-01 acetate 3 .80% + (Z,E)-7,1 1- Hexadecadien-1-01 acetate 3.80%)*** (Gossyplure, Pheromone) or NoMate PBW **MEC** ***((Z,Z)-7,11- Hexadecadien-1- yl Acetate 10.0% + (Z,E)-7,11- Hexadecadien-1 -yl Acetate 10.0%)*** (Gossyplure, *P*heromone) (Microencapsulated concentrate) and a chemical component such as Lock-On.
- Lock-On is a formulation of microencapsulated *chlorpyrifos*.

Cumulative trapping, treatment and sterile release data will be provided at a later date. We hope that this information provided will be sufficient to help you complete your review.