

# **2009 NCC PINK BOLLWORM ACTION COMMITTEE Minutes**

**October 28<sup>th</sup>, 2009   Fiesta Inn Resort   Tempe, AZ**

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## **Call to Order and Summary of Objectives**

Chairman Palmer called the meeting to order and thanked everyone for making the effort to attend. Chairman Palmer acknowledged Clyde Sharp, Chairman of the Oversight Committee. Dennis advised that the minutes have been distributed and requested a motion.

**M/S/P**

**Bobby Hull motioned to accept the 2008 NCC PBW Action Committee minutes as written. Greg Wuertz seconded the motion and the motion passed unopposed.**

Chairman Palmer requested a roll call. NCC Pink Bollworm Action Committee Members:

Present	Absent
Dennis Palmer	John Benson
Bob Hull	Craig Bergman
Bob Sloan	Jim Ed Miller
Larry Turnbough	Clyde Sharp
Greg Wuertz	

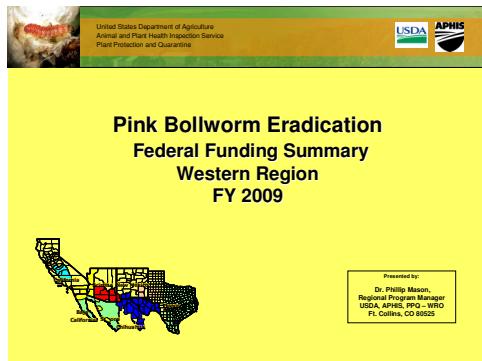
NCC Pink Bollworm Action Committee Advisors:

Rickey Bearden	Don Parrish
Rick Lavis	Earl Williams
Wally Shropshire	

Don Parker thanked Tish Tamulis for doing the minutes for the meetings. Don yielded the floor to Dennis Palmer. Dennis thanked the Technical Action Committee for the work that they do, and especially Dr. Staten. It has been a wonderful green program. Dennis has not used any pesticides to control any pests on 3,000 acres for the last three years. Dennis asked Phil Mason to give his presentation.

## **FY09 USDA APHIS PBW Expenditures**

Phil Mason greeted everyone.



The \$93,500 reflects the current shipping cost of moths, but may go up to \$112,000.

### FY2009 WR Pink Bollworm Expenses

Western Region Assessment	\$ 99,071
State Plant Health Directors	129,538
Regulatory Expenses	98,959

#### Rearing Facility Costs

Salary & Benefits	2,183,105
Operating Costs	2,293,282
Repairs	400,000
Shipping Moths	93,500
Utilities	<u>276,596</u>

Total Rearing Facility Costs = \$5,246,483

### FY2009 WR Pink Bollworm Expenses

#### Aerial Release + Technical Assist. + Cost-Share

ID Equipment (divided among program areas)	\$ 85,000
Arizona (960K + 35K)	995,000
California (242K + 35K + SoCA-125K )	402,000
New Mexico ( 0 + 35K + 50K)	85,000
Texas (175K + 35K + 735K)	<u>945,000</u>
 Total Agreements	2,512,000
 Grand Total	\$8,086,051

Jim Rudig asked if the Western Region figures were less than originally projected, and what happens to any carry-over. Bill Grefenstette advised that monies are carried into FY10.

Dennis Palmer advised that if you did not receive an e-mail concerning the meetings and would like to receive one, please provide Don Parker. Dennis advised that there will be a change on the agenda. Craig Brown has to leave early, so the 2010 plans for Pink Bollworm Eradication scheduled for 10:50, will commence right after Leighton Liesner's presentation.

## ID Equipment Update

Leighton advised that thanks to the resolutions passed by these Committees last year, he was able to purchase equipment for all of the different program areas to improve the standardization of ID equipment. They were officially authorized to purchase the equipment in May 2009 through an appropriation of a grant through USDA. He received and distributed the equipment in June.



This is what the unit looks like from the side view. It is a digital camera which allows images to be taken and transferred anywhere. This is a 75X dissecting microscope. It is a good unit.



Before purchasing, we verified that these units can be retrofit for DS Red technology fluorescence work (at a cost of \$8,380 each). That would make the total cost of the unit approximately \$15,000 with the initial purchase and the fluorescence. Last year, Greg Simmons indicated that a similar unit would cost around \$30,000. There were a total of 9 scopes, 7 cameras and 13 magnifiers. They have all been tagged and inventoried for USDA.



Dennis Palmer asked if he could discuss quality. Leighton reported this was the first year all of the identification work in Arizona was centralized. Traps were received at the Phoenix office. There were 999 traps and/or specimens that went to secondary review. Of those, 491 were strip tested for dye. We were able to delineate 508 of those without performing a strip test. Of the 491 strip tested, 104 were sterile and 387 were natives. Every suspect moth was dissected. Leighton and the technicians used these scopes daily and they proved to be absolutely critical.

Dr. Ellington inquired which part of the fluorescent spectra can be detected. Leighton reported that the Representative advised him they can manufacture filters for just about anything.

Dennis Palmer thanked Leighton.

# **2010 Funding for Pink Bollworm Eradication**

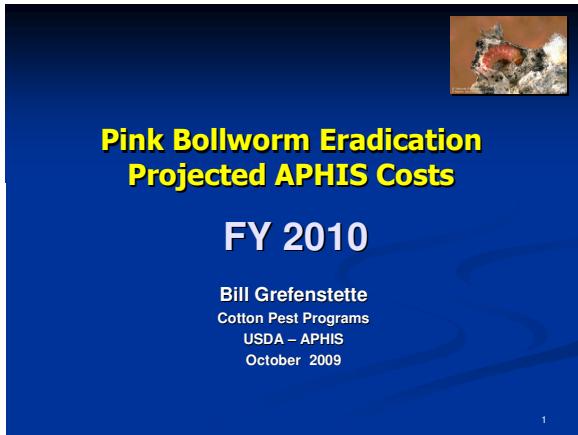
Craig Brown thanked the Chairman and Committee for their flexibility on moving him up on the agenda. Craig discussed the importance of being able to explain our future needs in a simple way, to Congress, especially with confirmation and post-eradication. We hope to obtain Congressional funding through appropriations, and the ability to be able to explain that in layman's terms is very important. It is easier to understand as you eradicate. It is going to be more difficult to explain confirmation and post-eradication. Pre-planning will pay a big dividend down the road.

This year, the Ag Appropriations Bill is one of the few Appropriations bills that have been considered by Congress and actually signed into law. We have always been worried about continued resolutions, what the previous years funding was versus anticipated funding, but this year we know. The funding for the Pink Bollworm comes in the form of a joint Cotton Pest Account within the APHIS budget. In that account is money for Boll Weevil eradication and Pink Bollworm Eradication programs. This year's appropriation was \$23.38 million, exactly

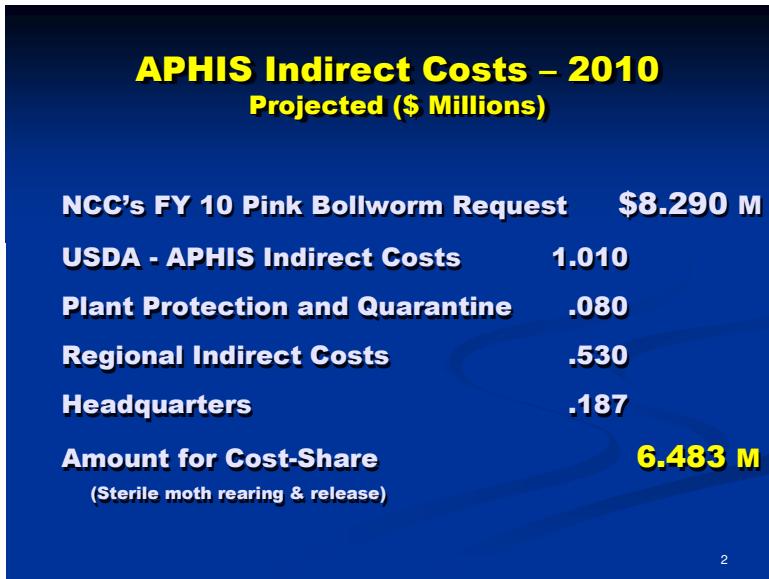
what we asked for. Of that, \$15.1 million was allocated for boll weevil, and \$8.28 million for pink bollworm. Bill will give you a detailed breakdown. We are appreciative to the members of Congress for acting positively on our request. Don't take that for granted. As this program heads towards post-eradication, we want to make sure we have a good plan, a good strategy, to work with Congress, to work through APHIS, and keep the funding where it needs to be in order to protect this investment that both growers and the government have put into this program. It will be very important.

Craig asked if there were any questions. There were not. Dennis Palmer called Bill Grefenstette to give his report.

## FY 2010 PBW Allocations



Bill Grefenstette reported that \$8.29 million is allocated to pink bollworm this year. Each appropriated line item within the department is assessed a fixed percentage rate (as reflected):

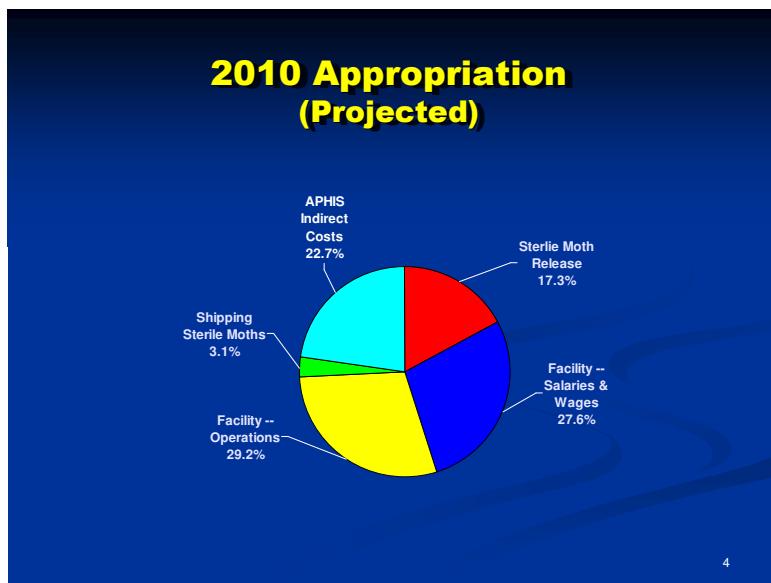


The total allotment for sterile moth release this season is \$1.38 million. The rearing facility allotment of \$2.2 million reflects a reduction from 26 million to 20 million/moths/day projected for this season. The Rearing Facility operation line item is the non-human aspect cost. Bill recognized Ernie had projected 4.526 million for total projection, which would include salaries and supplies. Bill explained that he had to coordinate an arbitrary break based on the ratio he had this year. The overall total should match Ernie's.

<b>APHIS Direct Costs – 2010 Projected (\$ millions)</b>	
<b>Sterile Moth Release (CA-.330; AZ-.883; TX-.167)</b>	<b>1.380</b>
<b>Rearing Facility — Salaries &amp; Wages</b>	<b>2.200</b>
<b>Rearing Facility — Operation</b>	<b>2.326</b>
<b>Shipping Sterile Moths</b>	<b>0.250</b>
<b>Total Rearing &amp; Release Costs</b>	<b>6.156</b>
<b>El Paso Debt Payoff</b>	<b>.179</b>
<b>Projected Balance Available</b>	<b>.148</b>

3

Bill reported his understanding is the outstanding balance on the FSA loan for the El Paso zone is \$179,000, so if the decision was made to pay off that loan, that would leave a projected balance of \$148,000. The decision is up to the Committee.



4

Greg asked whether or not APHIS has any budgetary restraints on this program holding some unallocated funding, in order to provide additional sterile releases if needed, based on some recent outbreaks. Bill answered that this past year we held back approximately \$285,000 as a contingency. We ended up using some of it. At the end of the year, what was not used was reallocated out. By the end of the fiscal year, we like to have most of it allocated for its intended use. However, there is no problem in holding back a small percentage, in order to address a small outbreak like is being discussed, and if the need does not arise, we would not want to just arbitrarily hold on to it. We want to make full utilization of funds for their intended use. We will hold whatever the Committee suggests.

Dennis Palmer advised, that based on his discussions, they were looking at holding approximately \$480,000 which could be used for release.

There were no other questions or comments. Dennis Palmer advised that Bill Grefenstette will be retiring. He was presented with a plaque for his service and our appreciation of his contributions. He received a standing ovation.

## **2009 Program Accomplishments --- Program Reports**

Larry Smith presented the report for Texas. The same power point presentation was used. (You can view the actual slides in the NCC PBW TAC October 27<sup>th</sup> meeting minutes).

This will be a brief report from what was presented yesterday. The El Paso / Trans Pecos area is what we are talking about in our Pink Bollworm Eradication Program.

On the west side of the St. Lawrence area we did limited trapping in the western High Plains, all along the Texas border, and into New Mexico in the Pecos Valley area. These areas are not in Pink Bollworm Eradication. We started this trapping program in July to identify any other areas that could pose a threat of reinfestation. Our largest concentration of traps ranged from approximately a high of nineteen on down to none. A lot of traps did not catch any pink bollworm.

In the Pecos Valley we caught one by Artesia, and then six, and two in New Mexico. They are not big numbers, but enough to show us that pink bollworm is present. We have an area of a lot more cotton that was not trapped this year. It is comprised of dry land non-Bt cotton. We hope to have a trapping program there next year.

Part of the Pecos District that is in our Pink Bollworm Program has organic acres in Culberson County. Most of the cotton production is southeast of Pecos. The other area is the Tornillo / El Paso proper area. In the Pecos District, we have 340 acres non-Bt cotton and 6,075 Bt cotton. The lower Valley has 10,198 acres of non-Bt cotton, and a total of 14,786 acres. The upper Valley has 9,860 acres of non-Bt cotton, and a total of 12,775 acres.

In Pecos, the last time we captured a pink bollworm was in 2007, and did not expect to catch any this year. However, the week of September 28<sup>th</sup>, we caught three pinkies. The next week we spiked a 627, and have come back down.

In regards to the question on weather posed yesterday, September 27<sup>th</sup> in Pecos the maximum temperature was 99, with 55 minimum, and an average wind speed of 7 m.p.h. with wind gusts 32 west. The next day, 89-55, gusts of 36 out of the north. You can just follow the line to where the weather changed back from the west – southwest. During that time period, even though this was a cold front, it stayed a lot warmer than would have been anticipated.

The Tornillo District caught again in Pecos on the 28<sup>th</sup>. We did not catch anything over the Tornillo area, so we thought we might have missed it. Then low and behold, last week we started catching 573, and we may be up to about 300 this week. There were captures in Clint.

Larry showed a thematic map indicating pink bollworm captures.

The discussion moved to the New Mexico Pink Bollworm program presented by Joe Friesen.

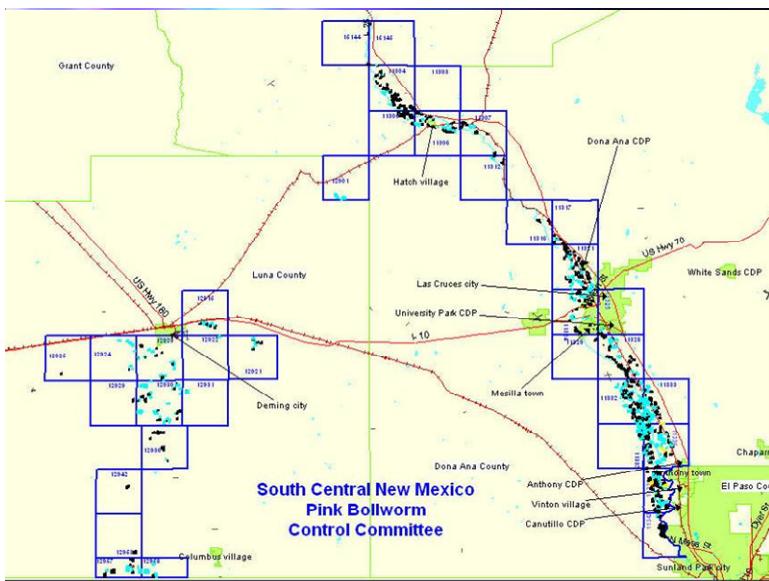


Joe reported that the following two slides reflect a basic history of the program, which began in 2002. It should be noted that 2002 was the last year we had weevils. The data here is not totally complete because we started in mid-July, so we only have a half season as far as data.

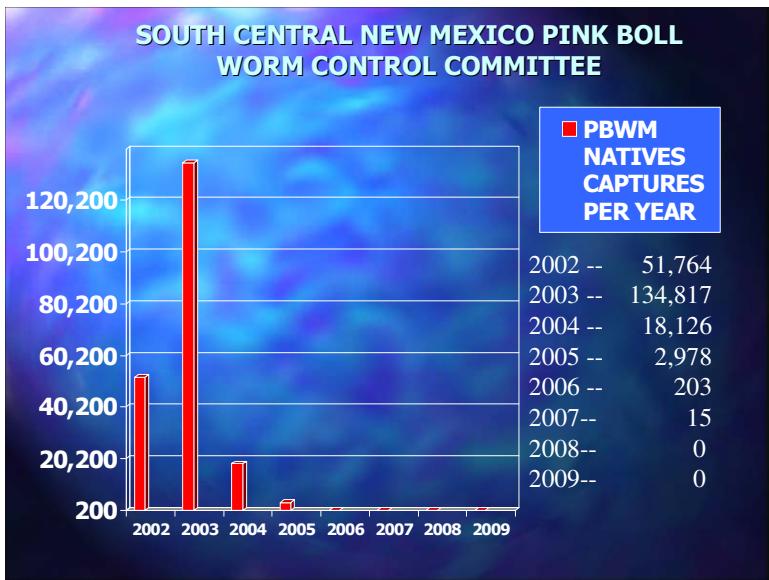
In 2003, we began the program full-time. There was an average of 3.27 pinkies per trap captured that year. In 2004, we averaged .37 per trap. At first, steriles were not available. We had to rely on conventional methods including Bt cotton, liquid pheromone, Rope, and Lock-On when necessary. You can see the pinky per trap went down to .0066 in 2006, respectively.

SOUTH CENTRAL NEW MEXICO PINK BOLLWORM CONTROL COMMITTEE PROGRAM STATISTICS								
	2002	2003		2004		2005		
ACRES	17,061		17,061		21,701		21,722	
TRAPS	1,782		1,906		2,371		2,231	
ACRES ROPED	10,690	63%	9,300	55%	9,493	44%	1,991	9%
BT ACRES	6,368	37%	8,757	51%	10,054	46%	9,703	45%
PIMA ACRES	6,729	39%	4,467	26%	8,352	38%	9,442	43%
CONV ACRES	3,568	21%	3,483	20%	3,294	15%	1,913	9%
ORGANIC	396	2%	353	2%	370	2%	664	3%
AVER PBW/TRAP	1.530		3.270		0.370		0.061	
PBW CAPTURED	51,764		134,817		18,126		2,978	

SOUTH CENTRAL NEW MEXICO PINK BOLLWORM CONTROL COMMITTEE PROGRAM STATISTICS					
	2006	2007		2008	
ACRES	21,627		16,957		14,664
TRAPS	1,652		910		412
ACRES ROPED	627	3%	1,325		0
BT ACRES	7,902	36%	12,603		11,361
PIMA ACRES	11,748	55%	3,580		2,383
CONV ACRES	1,974	9%	774		920
ORGANIC	606		733		753
AVER PBW/TRAP	0.0066		0.0006		0.0
PBW CAPTURED	203		15		0

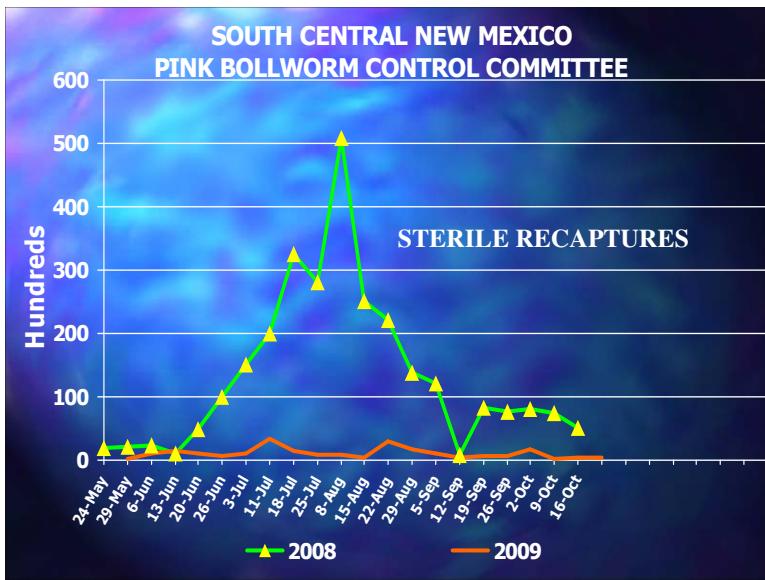


The Texas program has some cotton adjacent to our cotton in El Paso County.

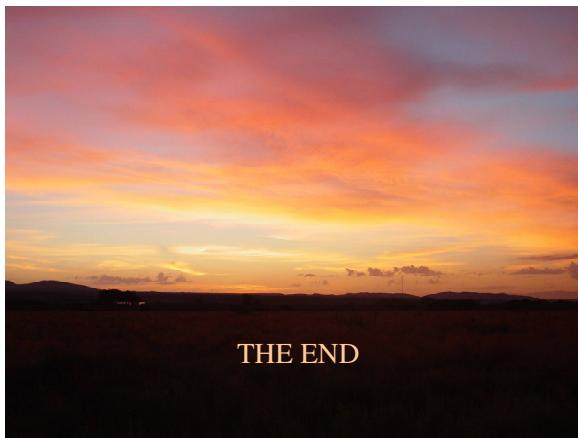




Every year we do boll cutting for four weeks. We have not found larvae since 2004.



The blip you see here is actually misleading because we had rain that week.



THE END

Joe concluded his presentation. Dennis Palmer advised that we should have entertained a motion after Bill Grefenstette's report in order to accept the allocations as they were presented.

**M/S** Larry Turnbough moved to accept Bill Grefenstette's allocation of funds as presented in his report. Greg Wuertz seconded the motion.

**Clyde Sharp** asked if we could post-pone the decision until we hear all of the reports. Chairman Palmer agreed.

The discussion moved to the Mexico reports. Ted Boratynski was acknowledged for his efforts. Ted advised that there will be a meeting in Mazatlan on November 10<sup>th</sup> through the 13<sup>th</sup>. Everyone was encouraged to attend. Ted introduced the first speaker, Ing. Hector Aguirre Romero, who will be reporting on the Pink Bollworm Program in Baja California.

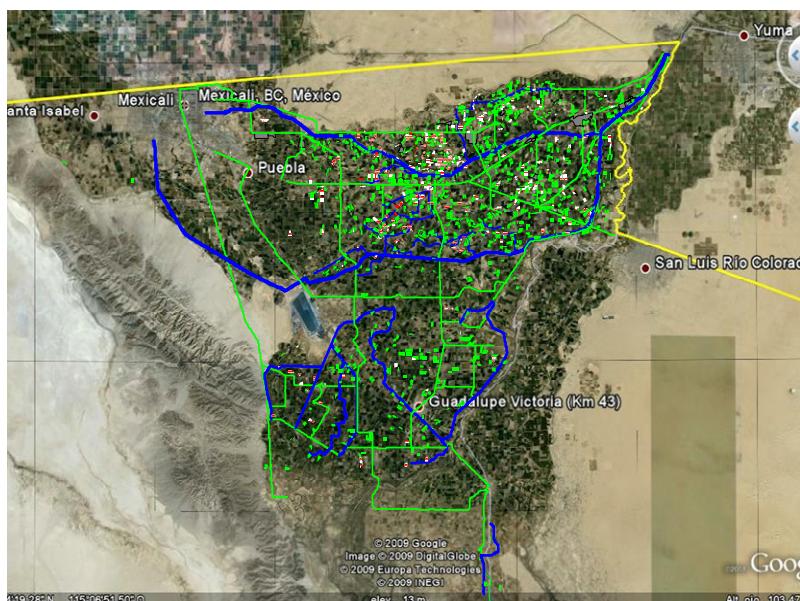




## Gusano Rosado



*Pectinophora gossypiella*



Hector showed a map of his area.

**RELACION Bt - NO Bt**

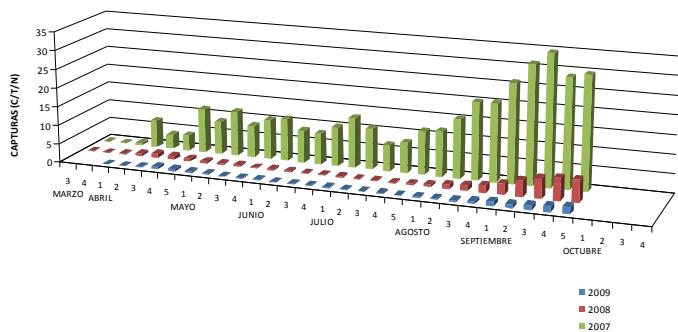
Año	Superficie Total (Ha)	Algodón Bt (Ha)	Algodón No Bt (Ha)	Relación Algodón Bt-No Bt (%)
2005	20,112	6,034	14,078	36-64
2006	23,481	6,105	17,376	26-74
2007	20,643	12,799	7,844	62-38
2008	19,984	13,480	6,504	68-32
2009	17,385	13,614	3,771	78-22

Hector showed a comparison slide of how many hectares of Bt versus non-Bt was grown in his area between 2005 through 2009.

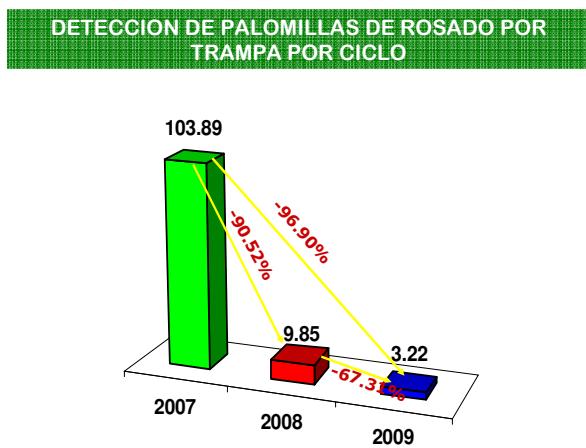
**LIBERACION DE PALOMILLAS ESTERILES**



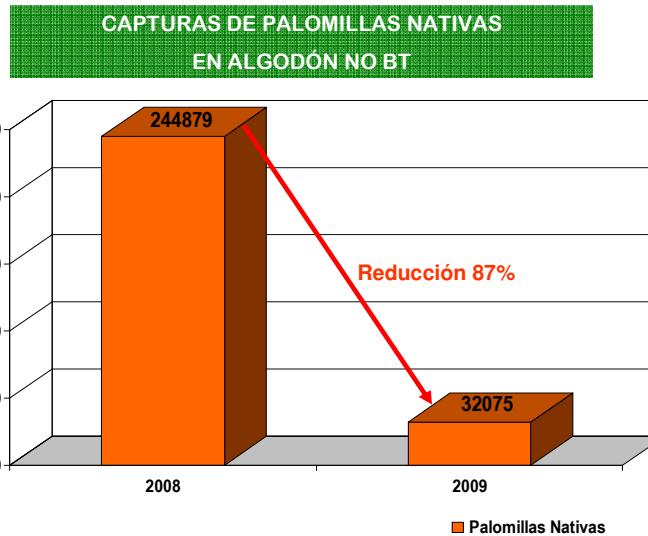
There were 822.6 million sterile pink bollworm moths released in his area. The total flight hours were 568 with a recapture rate of .01%.



This slide shows a weekly breakdown of pink bollworm moth captures in Mexicali from 2007 through 2009.

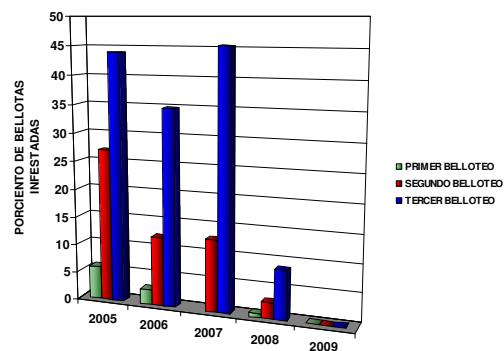


There was over a 90% reduction in the capture rate of pink bollworm from 2007 to 2008. In comparing 2007 to 2009, they have a 96.90% reduction in captures.



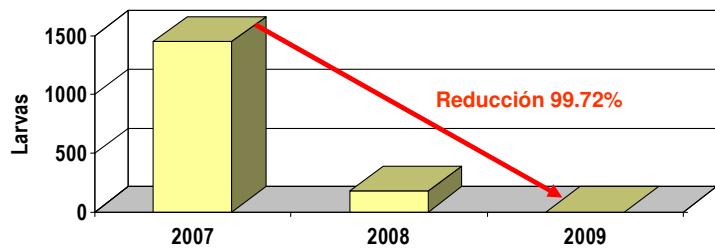
There has been an 87% reduction in the number of natives captured in non-Bt cotton this season compared to last year. In 2009, there are still over 32,000 captured.

**MUESTREO BELLOTAS-GUSANO ROSADO**



Boll sampling is performed three times throughout the season. You can see how the number of infested bolls progressively increases through out the season, and how the larvae are reducing in number through the years.

**EVALUACION DE RESULTADOS  
MUESTREO DE BELLOTAS**



In 2007, we found 1,450 larvae in the 5,000 bolls that were collected. In 2009, we found only four infested bolls out of the 6,000 collected. There were two found in July and two found in August. The number of infested bolls has reduced over 99% when you compare 2007 to 2009.



The discussion moved to Sonora as presented by Ing. Rene Yescas Dominguez.



**Programa Nacional para la Supresión de Gusano Rosado y Monitoreo de Picudo del Algodonero en el Estado de Sonora México 2009**

Octubre del 2009

National Pink Bollworm Program for Sonora 2009.

**Ubicación del Programa y Siembras de Algodón  
Región Norte Sonora**



You can see the location in Sonora of the cotton and program area, totaling 2,974 hectares. There are 2,367 hectares in the San Luis Rio Colorado area, and 607 hectares in Sonoyta.

## Antecedentes

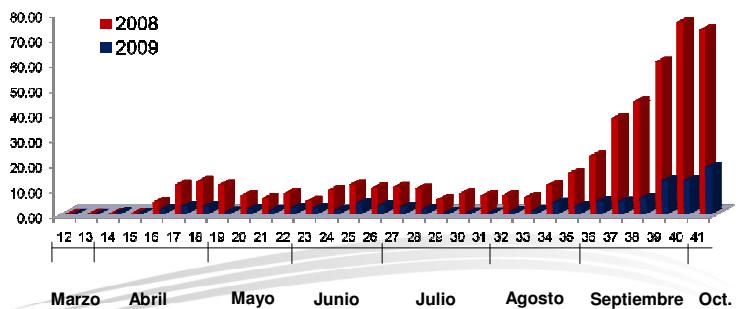
### Uso de algodón transgénico SLRC

Año	Superficie total	Algodón Bt (ha)	Algodón No Bt (ha)	Algodón Bt-No Bt (%)
2008	3,262	2,792	470	86-14
2009	2,367	1,963	404	83-17

Background: San Luis Rio Colorado transgenic cotton; year, total hectares; Bt cotton; non-Bt cotton; percentage of Bt to non-Bt cotton.

## Detecciones

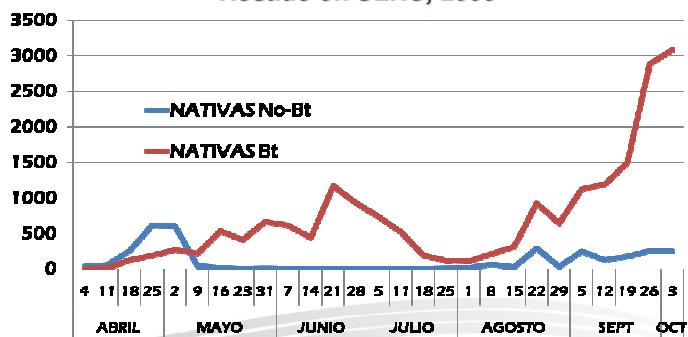
### Capturas/Trampa/Semana de Gusano Rosado en SLRC



Detection: Pink Bollworm captures per trap per week for the last two years. You can see a clear difference within the two years, with a large reduction in numbers for 2009.

## Detecciones

### Distribución de Capturas de Gusano Rosado en SLRC, 2009

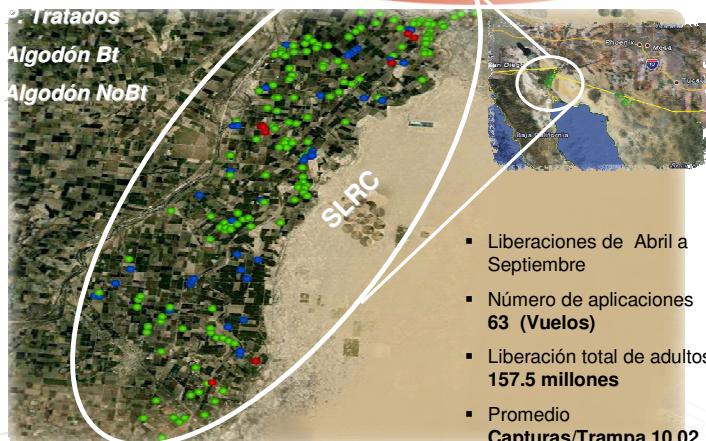


Detection: 2009 Pink Bollworm native capture rates for Bt vs. non-Bt. The pheromone effect can be seen when comparing the conventional cotton.

### Liberaciones de Palomilla Estéril

#### Simbología

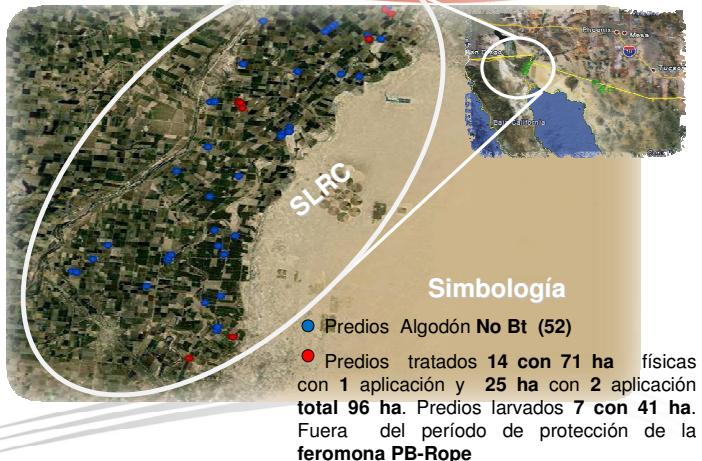
- Tratados
- Algodón Bt
- Algodón NoBt



- Liberaciones de Abril a Septiembre
- Número de aplicaciones 63 (Vuelos)
- Liberación total de adultos 157.5 millones
- Promedio Capturas/Trampa 10.02

Sterile Moth Releases: Red = Treated; Green = Bt cotton; Blue = non-Bt cotton. Releases were performed April through September. There were 63 applications releasing 157.5 million moths. An average of 10.02 moths per trap were captured.

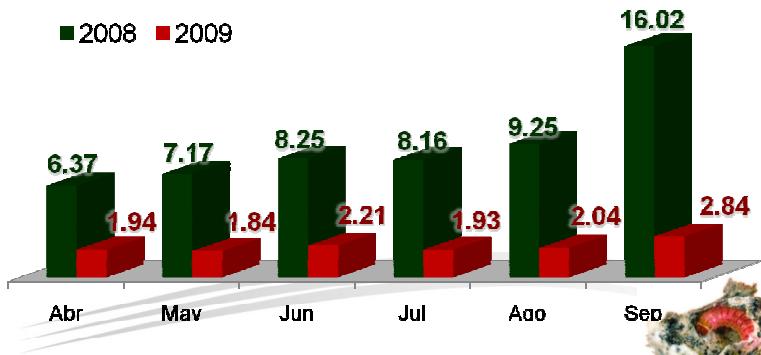
## Predios Algodón No Bt y Tratamientos



Non-Bt Cotton Treatments: There were 52 non-Bt cotton fields. There was one treatment application on fourteen fields totaling 71 hectares. Two applications were applied on a total of 25 hectares.

## Detecciones

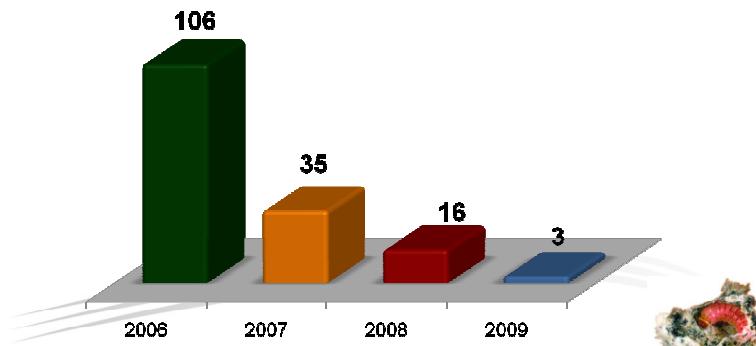
### Promedio Mensual Capturas/Trampa Gusano Rosado en SLRC



Detection: Monthly average of captures per trap of Pink Bollworm in San Luis Rio Colorado by month for 2008 and 2009. As you can see, the presence of the moth is much lower.

## Resultado

### Promedio Anual Capturas/Trampa Gusano Rosado en SLRC



Results: Annual average of Pink Bollworm trap captures in San Luis Rio Colorado. You can see how high the numbers were without a program, and how much they have been reduced as a result of starting the program.

## Resultados SLRC

- Reducción del 97% (Capturas por trampa) en relación con el año 2007 que se inicia el programa
- Reducción del 81% (Capturas por trampa) en relación con el 2008
- Se liberaron 157.5 Millones de palomilla estéril con promedio de capturas/trampa de 10.02
- La superficie aplicada bajó el 52%
- El número de tratamientos bajó el 43%
- Se mantuvo la zona de baja prevalencia del picudo del algodonero

There was a reduction of 97% (catch per trap) in relation to the year 2007 at the start of the program. In 2008, there was a reduction of 81% (catch per trap). There were 157.5 million sterile moths released with recapture rate of 10.02 for the average catch / trap. Application areas reduced 52%, and the number of treatments fell by 43%.

**Ubicación del Programa y Siembras de Algodón  
Región Sonoyta**



This show the Sonoyta program and cotton areas where there was a total of 607 hectares of cotton.

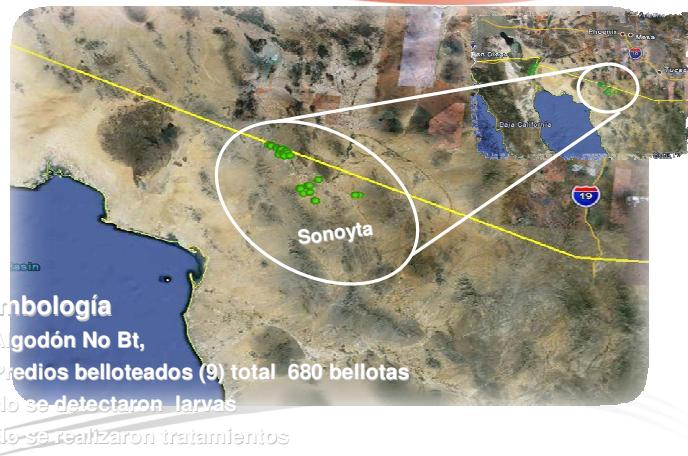
**Antecedentes**

**Uso de algodón transgénico Sonoyta**

Año	Superficie total	Algodón Bt (ha)	Algodón No Bt (ha)	Relación Algodón Bt-No Bt (%)
2008	623	0	623	0-100
2009	607	260	347	43-57

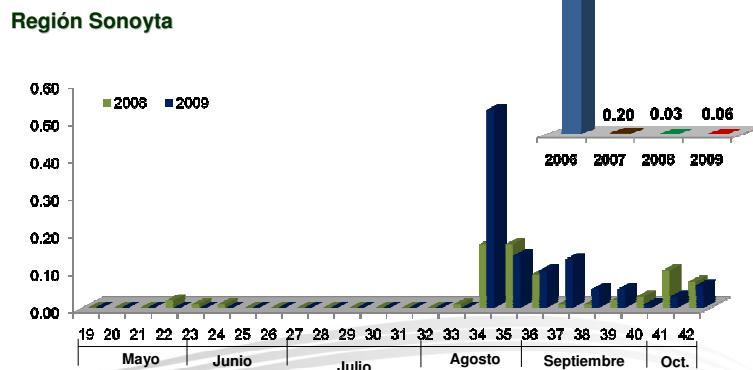
Background: Sonoyta Transgenic Cotton, per year; total hectares; Bt cotton; non-Bt cotton; percentage of Bt to non-Bt cotton.

## Predios de algodón No Bt-Sonoya



Location of non-Bt cotton in Sonoya. The green dots represent non-Bt cotton. Out of the 680 bolls collected, no larvae were detected and no treatments were applied.

## Detecciones Capturas/Trampa/Semana



Sonoya Pink Bollworm moth recapture rate per trap per week for 2008 and 2009. You can see the presence of moths clearly during the month of August, much higher than it was in 2008. In the upper right hand corner of this slide you can see the recapture index percentage in comparison to 2006.

- Este año se registraron en total 162 capturas, en el año 2008 fueron 71 capturas;
- Se incrementó el promedio pasando de 0.03 a 0.06 capturas/trampa/ semana, con respecto al 2008, en razón de las migraciones que se registraron fuera del período de protección de la feromona
- No se detectaron larvas
- No se realizaron tratamientos
- Se mantuvo la zona de baja prevalencia del picudo del algodonero

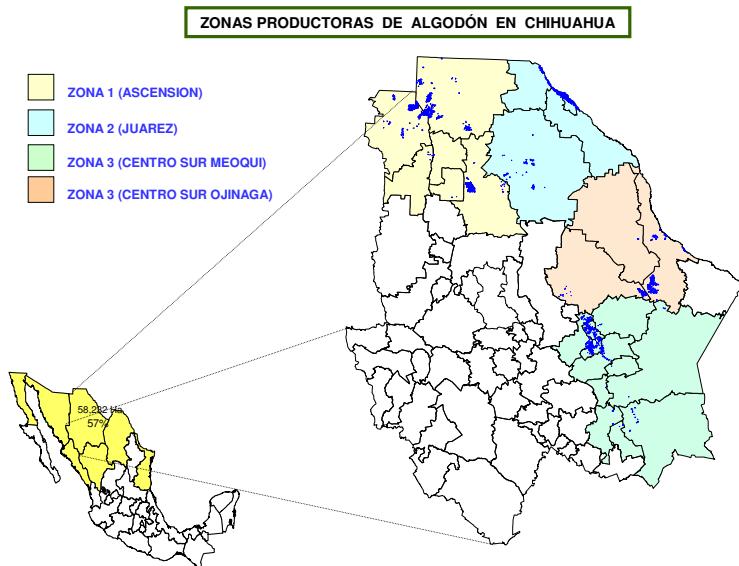
There were 162 pink bollworm captures in 2009, compared to 71 in 2008. There were more captures this year. Due to migration, the average rose from 0.03 to 0.06 captures per trap per week. There were no larvae detected and no treatments were applied. It should be noted that there was a presence of boll weevil.

Dr. Staten was recognized for his efforts and accomplishments. He thanked Dr. Staten and presented him with a Plaque for his dedication and hard work. Dr. Staten advised that people in Mexico have worked with him for years and years to get technology to the point to be able to do what we are doing. Early trials were conducted in Baja California Sur. The spirit that they have worked with Dr. Staten has been incredible. He is deeply appreciative of the people in San Luis Rio Colorado and everyone else in Mexico, Chihuahua, Mexicali.

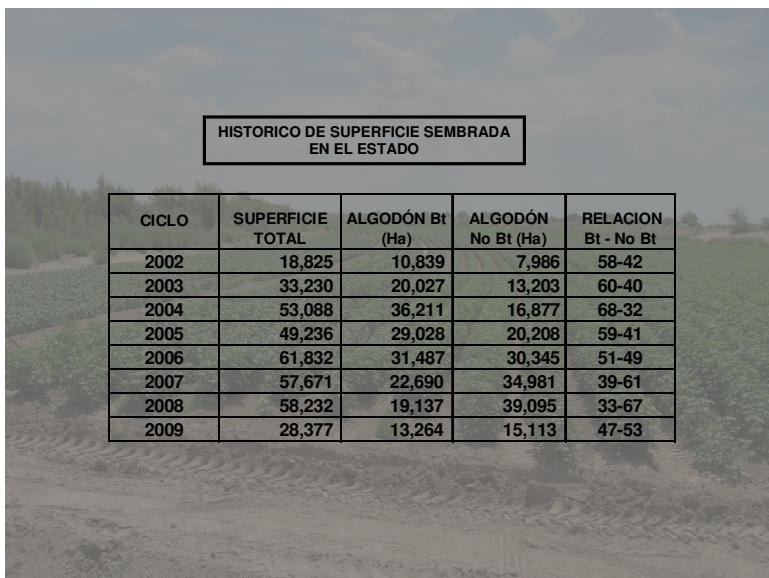
The discussion moved to Chihuahua presented by Ing. Jesus Escarcega Tarin. Jesus greeted everyone. He advised that Chihuahua began their eradication program in 2002.

**PROGRAMA BINACIONAL DE SUPRESION/ERRADICACION DE GUSANO ROSADO Y PICUDO DEL ALGODONERO**





This slide shows the different locations within the state of Chihuahua including Ascension, Juarez, Centro Sur Meoqui and Centro Sur Ojinaga.



Here you can see a history of the total hectares. You can see how much Bt and non-Bt hectares there are, as well as the percentage.



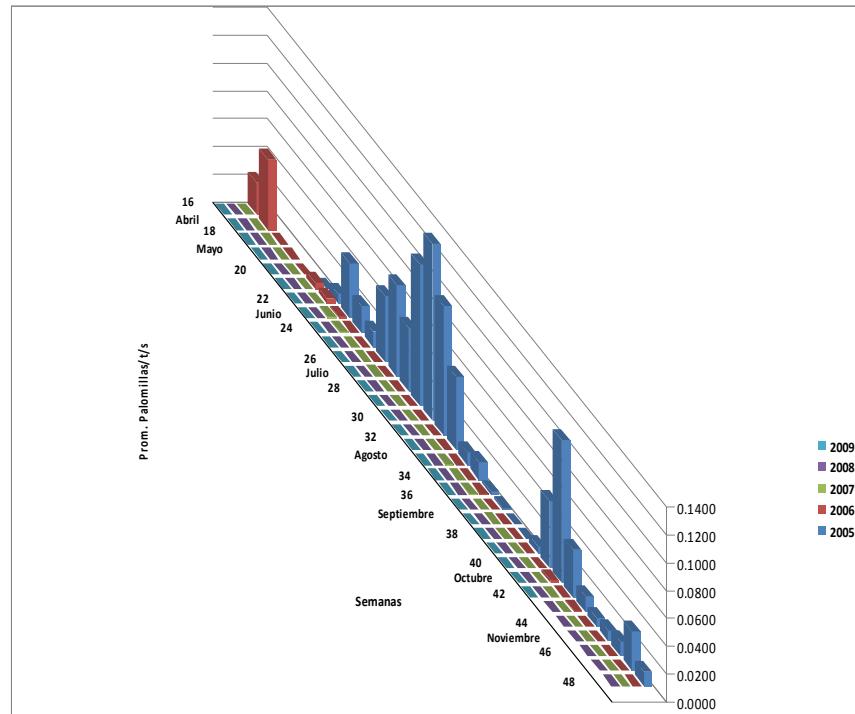
REGION NOROESTE (ASCENSION)

AÑO	SUP. TOT (HA)	SUP. No Bt (Ha)	REL Bt-No Bt (%)	PB ROPE (Ha)	% PB ROPE	250 SOGAS	500 SOGAS
2002	11,268	3,507	69-31	3,507	100	0	3,507
2003	16,499	5,177	68-32	5,177	100	0	5,177
2004	25,637	8,566	67-33	8,566	100	0	8,676
2005	23,088	12,332	47-53	8,936	73	7,732	1,204
2006	28,430	17,524	38-62	13,110	75	10,389	2,857
2007	29,228	20,848	29-71	1,118	5	1,118	0
2008	29,632	20,981	30-70	461	2	461	0
2009	29,632	7,047	31-69	0	0	0	0

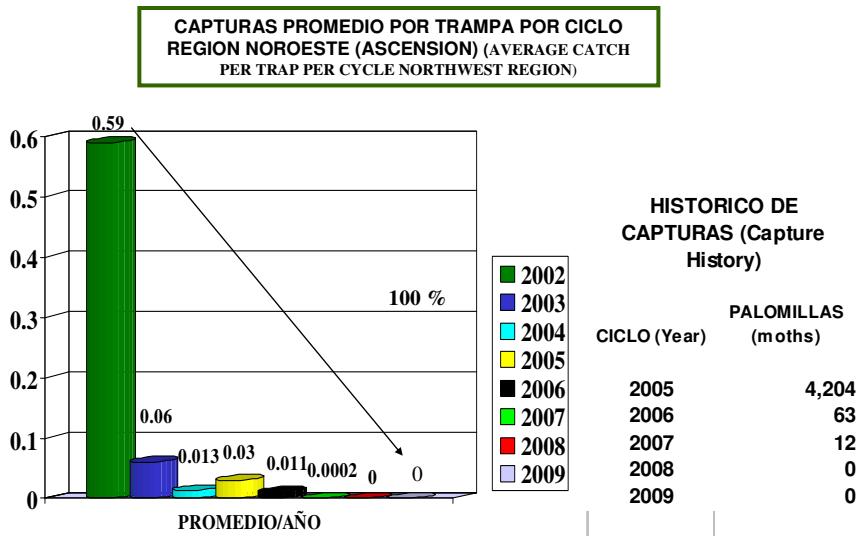
Ascension is located in the northern part of the State of Chihuahua. You can see the history of hectares for Ascension with the corresponding percentages. Ascension has completed the second consecutive year with no pink bollworm captures. You can also see the total hectares of PB Rope applied as well as whether or not it was 250 or 500 ropes applied per hectare. He also broke down the percentage of hectares that had PB Rope applied in relation to the total hectares for this area.

## DETECCION REGION NOROESTE ASCENSION

Mes	Semana	2005	2006	2007	2008	2009
Abril	16		0.0229	0.0000	0.0000	0.0000
			0.0503	0.0000	0.0000	0.0000
Mayo	18		0.0000	0.0000	0.0000	0.0000
			0.0000	0.0000	0.0000	0.0000
	20		0.0000	0.0000	0.0000	0.0008
			0.0000	0.0040	0.0000	0.0000
	22	0.0070	0.0030	0.0000	0.0000	0.0000
Junio	16	0.0390	0.0010	0.0007	0.0000	0.0000
	18	0.0190	0.0003	0.0005	0.0000	0.0000
		0.0110	0.0000	0.0000	0.0000	0.0000
	20	0.0470	0.0000	0.0004	0.0000	0.0000
Julio	16	0.0660	0.0000	0.0004	0.0000	0.0000
	18	0.0460	0.0000	0.0000	0.0000	0.0000
		0.1020	0.0002	0.0000	0.0000	0.0000
	20	0.1270	0.0004	0.0000	0.0000	0.0000
		0.0930	0.0000	0.0000	0.0000	0.0000
Agosto	16	0.0530	0.0000	0.0000	0.0000	0.0000
		0.0090	0.0000	0.0002	0.0000	0.0000
	18	0.0130	0.0000	0.0000	0.0000	0.0000
		0.0020	0.0002	0.0002	0.0000	0.0000
Septiembre	16	0.0010	0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0002	0.0000	0.0000
	18	0.0000	0.0000	0.0000	0.0000	0.0000
		0.0050	0.0000	0.0000	0.0000	0.0000
	20	0.0478	0.0000	0.0000	0.0000	0.0000
Octubre	16	0.1026	0.0015	0.0000	0.0000	0.0000
	18	0.0345	0.0004	0.0000	0.0000	0.0000
		0.0112	0.0008	0.0000	0.0000	0.0000
	20	0.0064	0.0003	0.0000	0.0000	0.0000
Noviembre	16	0.0082	0.0001	0.0002	0.0000	0.0000
	18	0.0105	0.0001	0.0000	0.0000	0.0000
		0.0281	0.0001	0.0000	0.0000	0.0000
	20	0.0100	0.0000	0.0000	0.0000	0.0000



This shows a history of the average moths per trap broken down weekly.



This shows a history of the annual average of moths per trap.

**EVALUACION Y SEGUIMIENTO REGION NOROESTE (ASCENSION) (NORTHWEST REGION ASSESSMENT AND MONITORING)**

AÑO (year)	TOTAL CAMPOS (total fields)	CAMPOS Bt (Bt)	CAMPOS No Bt (non-Bt)	CAMPOS INFESTADOS
2002	60	16	44	5
2003	72	22	50	0
2004	108	35	73	0
2005	110	35	75	0
2006	168	38	130	0
2007	152	27	125	0
2008	53	0	53	0
2009	12	0	12	0

Here is annual number of fields for Ascension. You can see how many fields are Bt and non-Bt and the number of infested fields.

**REGION NORTE (JUAREZ)**



SUP. TOT (HA) (total hectares)	SUP. No Bt (Ha) (non-Bt hectares)	REL Bt-No Bt (%) (% Bt to non Bt)	PB ROPE (Ha) (total hectares of PB Rope)	% PB ROPE
5,251	3,528	33-67	3,528	100
7,579	5,736	24-76	5,736	100
8,689	6,177	29-71	6,177	100
7,915	5,586	29-71	1,070	19
8,898	6,840	23-77	1,063	16
7,625	6,124	20-80	1,159	19
7,371	6,383	13-87	194	3
5,052	4,134	18-82	155	4

Juarez is also located in the northern part of the State of Chihuahua, just east of Ascension. You can see the history of hectares for Juarez with the corresponding percentages. You can also see the total hectares of PB Rope annually, as well as the percentage in relation to the total hectares for this area.



**PB - ROPE**



DOSIS (DOSE)	LOTES (BATCH)	SUPERFICIE (SURFACE)
250 (Doble tratamiento)* Double Treatment	6	87
500 (Doble tratamiento)* Double Treatment	7	59
500**	1	9
<b>TOTAL</b>	<b>14</b>	<b>155</b>

\*Por capturas del 2008  
(2008 catches)  
\* Por capturas del 2009  
(2009 catches)

This describes the dual treatments PB Rope and total hectares for 2008 and 2009.

## LIBERACION DE PALOMILLA ESTERIL 2009

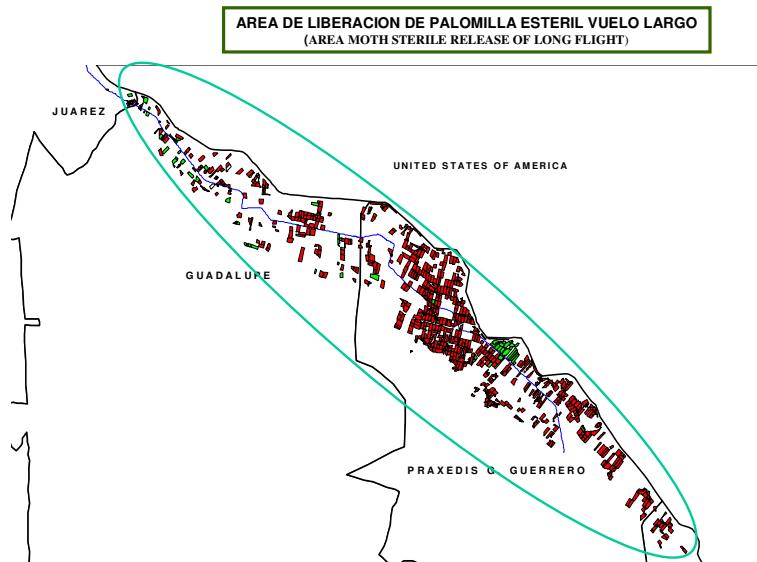
(2009 Sterile Moth Release)



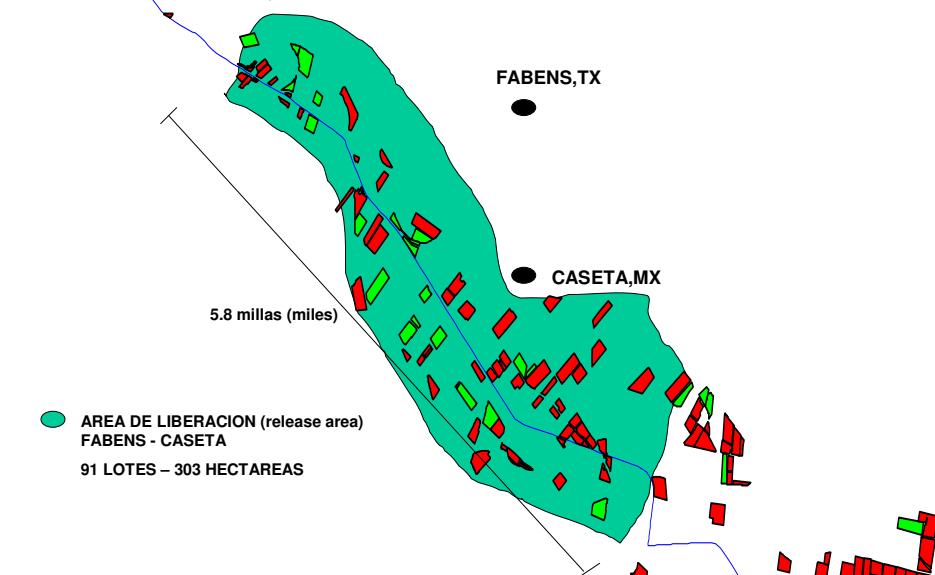
VUELOS: 04 DE MAYO AL 11 DE OCTUBRE (May 4 – Oct 11)  
(flights) 138 ORDINARIOS SENCILLOS EN SEIS DIAS/SEMANA (6 days/week)  
345 MILLONES DE PALOMILLAS. (million moths)

TIEMPO DE LIBERACION: 240 HORAS DE VUELO  
Release Time: 240 hours of flying

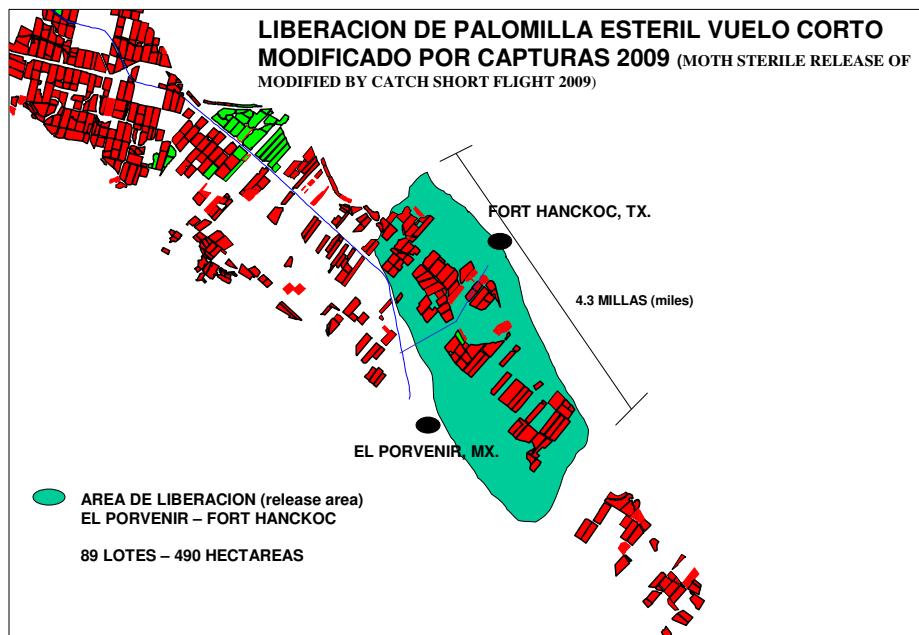
In 2009, releases were conducted beginning May 4<sup>th</sup> and ending October 11<sup>th</sup>. There were 138 flights six days per week that released 345 million moths. There were 240 flight hours logged.



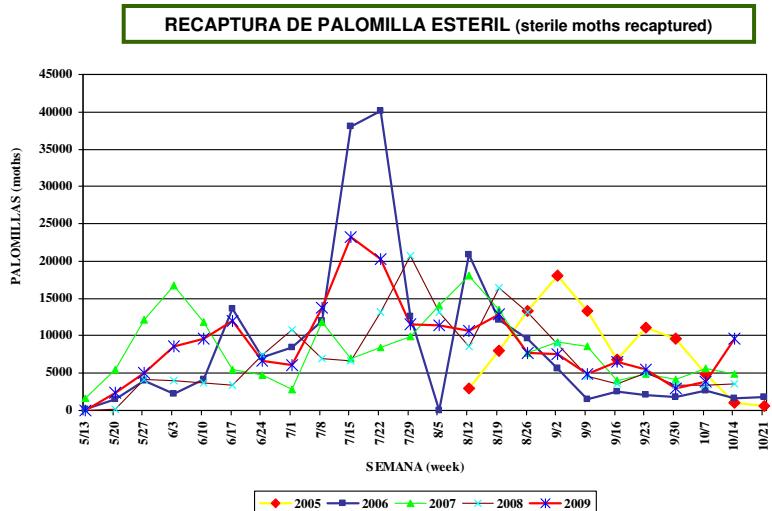
**LIBERACION DE PALOMILLA ESTERIL VUELO CORTO MODIFICADO POR CAPTURAS 2009** (MOTH STERILE RELEASE OF MODIFIED BY CATCH SHORT FLIGHT 2009)



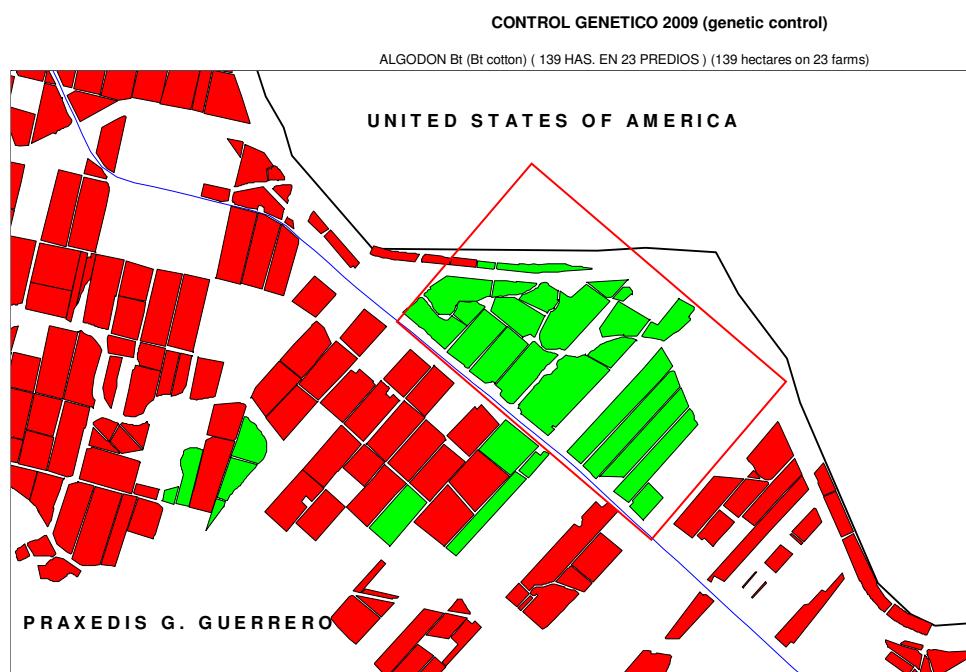
There were 91 “lots” for a total of 303 hectares.

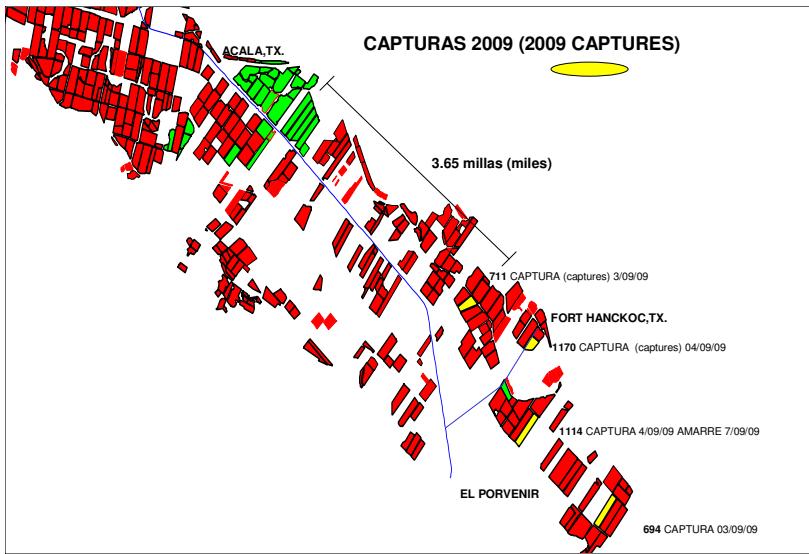


There were 89 “lots” for a total of 490 hectares.



This chart shows the sterile moth recapture figures broken down weekly since 2005.

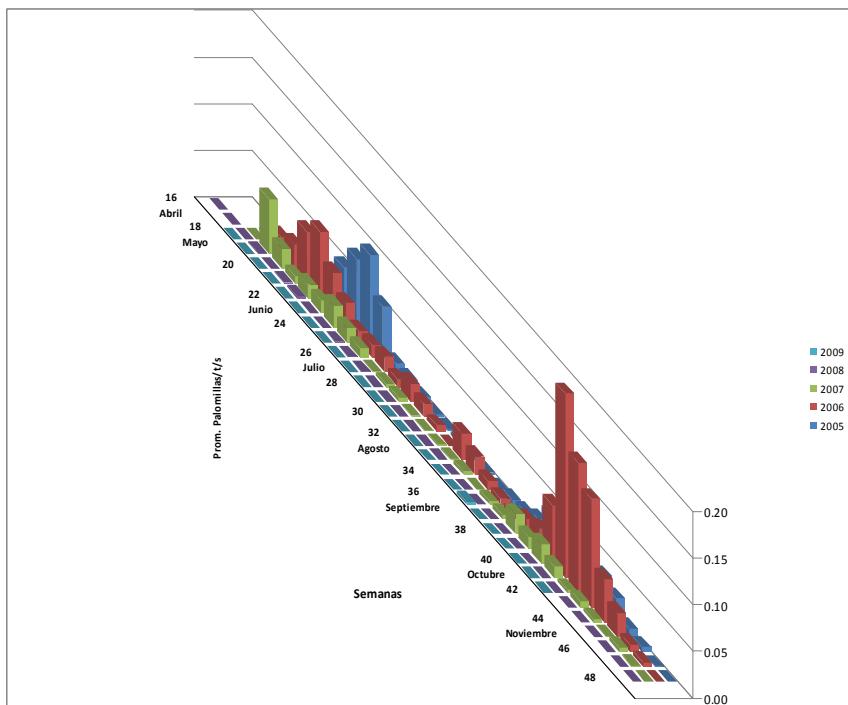




This slide shows the 2009 captures broken down to show you which areas they were caught.

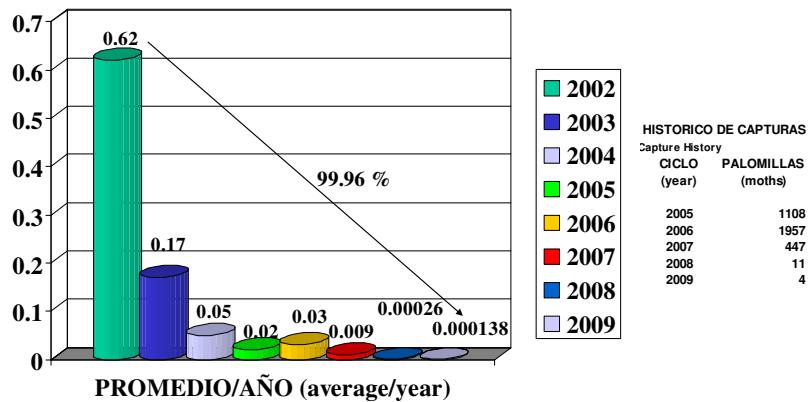
#### DETECCION REGION NORTE VALLE DE JUAREZ (NORTH VALLEY REGION DETECTION OF JUAREZ)

MES	SEMANA	2005	2006	2007	2008	2009
Abril	16				0.0000	
					0.0000	
Mayo	18	0.0000	0.0000	0.0000	0.0000	
		0.0185	0.0593	0.0013	0.0000	
	20	0.0000	0.0264	0.0214	0.0000	0.0000
		0.0000	0.0556	0.0084	0.0014	0.0000
	22	0.0200	0.0717	0.0147	0.0023	0.0000
Junio	24	0.0490	0.0432	0.0136	0.0000	0.0000
		0.0740	0.0266	0.0235	0.0000	0.0000
	26	0.0940	0.0125	0.0158	0.0005	0.0000
		0.0540	0.0134	0.0099	0.0005	0.0000
Julio	28	0.0090	0.0161	0.0010	0.0005	0.0000
		0.0080	0.0080	0.0029	0.0000	0.0000
		0.0050	0.0189	0.0044	0.0000	0.0000
	30	0.0020	0.0135	0.0005	0.0000	0.0000
		0.0020	0.0058	0.0009	0.0000	0.0000
Agosto	32	0.0030	0.0000	0.0015	0.0000	0.0000
		0.0020	0.0290	0.0019	0.0005	0.0000
	34	0.0030	0.0201	0.0043	0.0000	0.0000
		0.0010	0.0099	0.0010	0.0000	0.0000
Septiembre	36	0.0050	0.0063	0.0043	0.0000	0.0030
		0.0070	0.0057	0.0050	0.0000	0.0000
	38	0.0160	0.0159	0.0216	0.0000	0.0000
		0.0350	0.0214	0.0128	0.0000	0.0000
	40	0.0400	0.0629	0.0205	0.0000	0.0000
Octubre	42	0.0317	0.1398	0.0038	0.0000	0.0000
		0.0339	0.1165	0.0071	0.0000	0.0000
	44	0.0258	0.0470	0.0038	0.0000	
Noviembre	46	0.0096	0.0260	0.0011	0.0000	
		0.0052	0.0082	0.0048	0.0000	
	48	0.0006	0.0043	0.0010	0.0000	



This shows a history of the average moths per trap broken down weekly.

**EVALUACION Y SEGUIMIENTO REGION NORTE (JUAREZ)**  
**(EVALUATION AND FOLLOW-NORTHERN REGION)**



This shows a history of the annual average of moths per trap. We only had four this year.

**EVALUACION Y SEGUIMIENTO REGION NORTE (JUAREZ)**  
**(EVALUATION AND FOLLOW NORTH REGION)**

AÑO (year)	TOTAL CAMPOS (total fields)	CAMPOS Bt (Bt fields)	CAMPOS No Bt (non-Bt fields)	CAMPOS CON LARVA (fields with larvae)
2002	30	10	20	10
2003	42	10	32	8
2004	40	10	30	0
2005	40	9	31	1
2006	44	2	42	1
2007	36	0	36	0
2008	40	0	40	0
2009	28	0	28	0

Here is annual number of fields for Juarez. You can see how many fields are Bt and non-Bt and the number of infested fields.



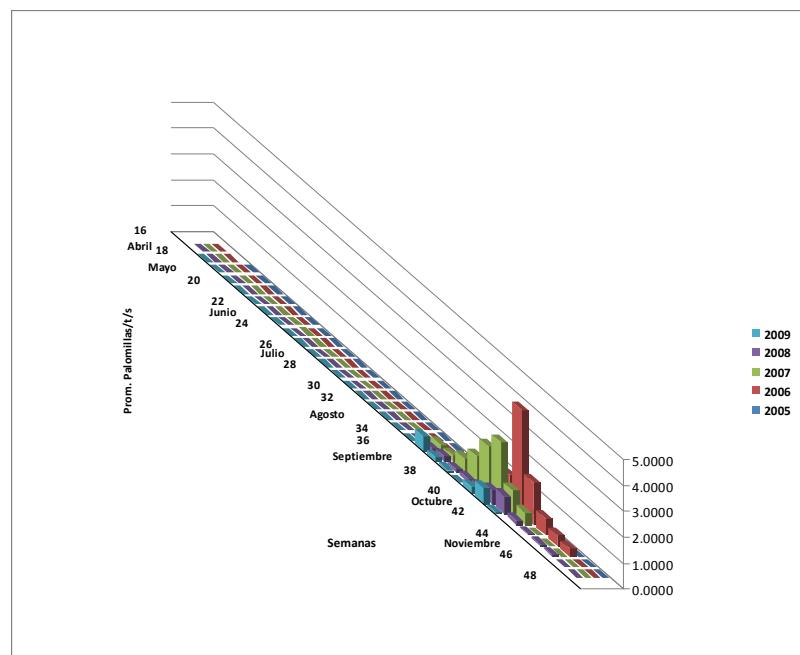
REGION CENTRO-SUR MEOQUI (central region)

AÑO (year)	SUP. TOT (HA)	SUP. No Bt (Ha)	REL Bt-No Bt (%)	PB ROPE (Ha)	% PB ROPE
2002	930	164	82-18	164	100
2003	5,151	380	93-7	308	100
2004	9,332	278	97-3	278	100
2005	6,752	321	95-5	180	56
2006	4,332	2,195	49-51	139	6
2007	933	114	88-12	25	22
2008	1,558	266	83-17	12	5
2009	531	2		0	0

Meoqui is located in the southeastern part of the State of Chihuahua. You can see the history of hectares for Meoqui with the corresponding percentages. You can also see the total hectares of PB Rope annually, as well as the percentage in relation to the total hectares for this area.

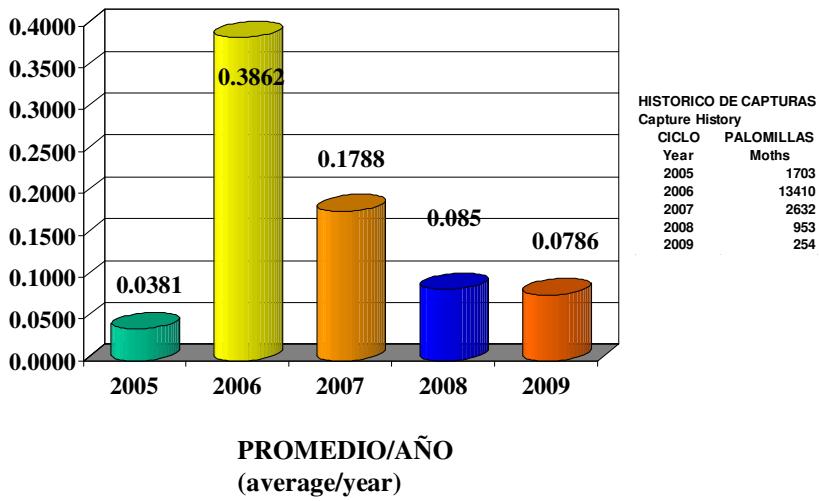
#### DETECCION REGION CENTRO SUR MEOQUI (SOUTH CENTRAL REGION DETECTION Meoqui)

MES	SEMANA	2005	2006	2007	2008	2009
Abril	16					
		0.0000	0.0000	0.0000		
Mayo	18	0.0000	0.0000	0.0000	0.0000	
	20	0.0000	0.0000	0.0000	0.0000	
	22	0.0000	0.0000	0.0000	0.0000	
Junio	24	0.0000	0.0000	0.0000	0.0000	
	26	0.0000	0.0000	0.0000	0.0000	
Julio	28	0.0000	0.0000	0.0000	0.0000	
	30	0.0000	0.0000	0.0000	0.0000	
Agosto	32	0.0000	0.0000	0.0000	0.0000	
	34	0.0000	0.0000	0.0120	0.0000	0.0000
	36	0.0100	0.0000	0.0090	0.0000	0.0000
Septiembre	38	0.0150	0.0000	0.2450	0.0990	0.5625
	40	0.0360	0.0212	0.2380	0.2040	0.1666
	42	0.1790	0.1305	0.5350	0.1000	0.0891
	44	0.2460	0.7266	1.0110	0.1600	0.0138
	46	0.1780	1.0986	1.8020	0.2360	0.2361
Octubre	48	0.1661	1.1179	2.3720	0.5350	0.6071
	50	0.0799	4.0339	0.9310	0.6910	0.0857
	52	0.0257	1.6506	0.4670	0.1770	
	54	0.0086	0.6552	0.0060	0.0400	
Noviembre	56	0.0147	0.4093	0.0000	0.0510	
	58	0.0000	0.3122	0.0000	0.0500	
	60	0.0000	0.0120	0.0000	0.0020	
	62	0.0011	0.0102	0.0000	0.0000	



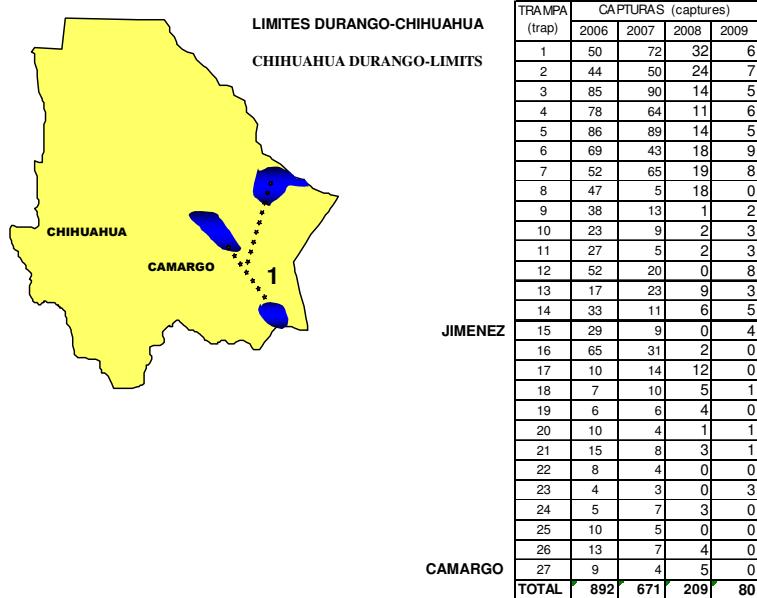
This shows a history of the average moths per trap broken down weekly.

**EVALUACION Y SEGUIMIENTO REGION CENTRO-SUR MEOQUI**  
 (EVALUATION AND FOLLOW MEOQUI SOUTH-CENTRAL REGION)



This shows a history of the annual average of moths per trap.

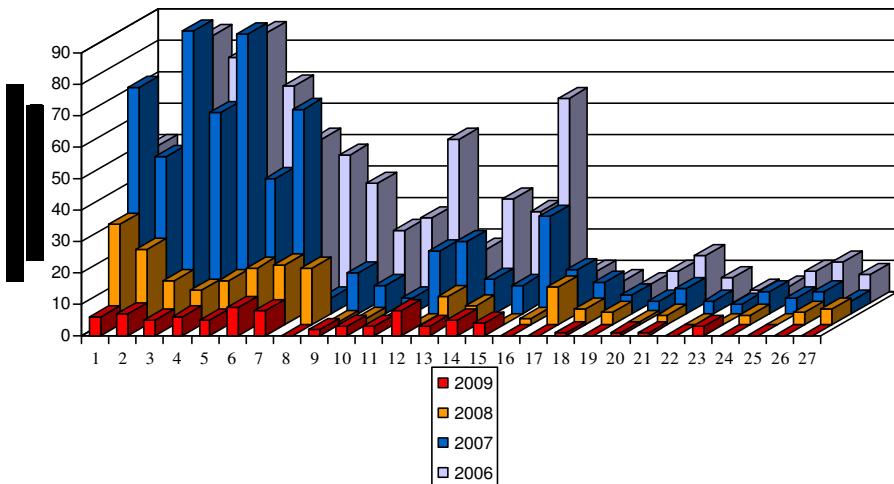
**MONITOREO DE GUSANO ROSADO EN CARRETERAS**  
 (MONITORING HIGHWAY pink bollworm)



This shows an annual break down of the pink bollworm trap line along the highway. Between September and October is when you see the presence of boll weevil moths, although we noted them a week prior in the roads.

**MONITOREO DE GUSANO ROSADO EN LA CARRETERA  
ESCALON-JIMENEZ-CAMARGO**

(Pink bollworm MONITORING ON THE ROAD)



Here you can see the cumulative adults per trap captured since 2006.

**EVALUACION Y SEGUIMIENTO REGION CENTRO-SUR MEOQUI**

(EVALUATION AND FOLLOW Meoqui SOUTH-CENTRAL REGION)

AÑO (year)	CAMPOS (total fields)	Bt (Bt fields)	No Bt (non-Bt fields)	LARVA (fields with larvae)
2002	31	11	20	0
2003	97	49	48	0
2004	86	37	49	0
2005	20	9	11	0
2006	27	22	5	0
2007	10	1	9	0
2008	8	0	8	0
2009	1	0	1	0

NOTA LOS AÑOS 2002, 2003 Y 2004 CORRESPONDEN A LA ZONA CENTRO SUR OJINAGA Y MEOQUI

(NOTE: 2002, 2003 and 2004 corresponds to the central south zone OJINAGA and Meoqui)

Here is the annual number of fields for Meoqui. You can see how many fields are Bt and non-Bt and the number of infested fields.



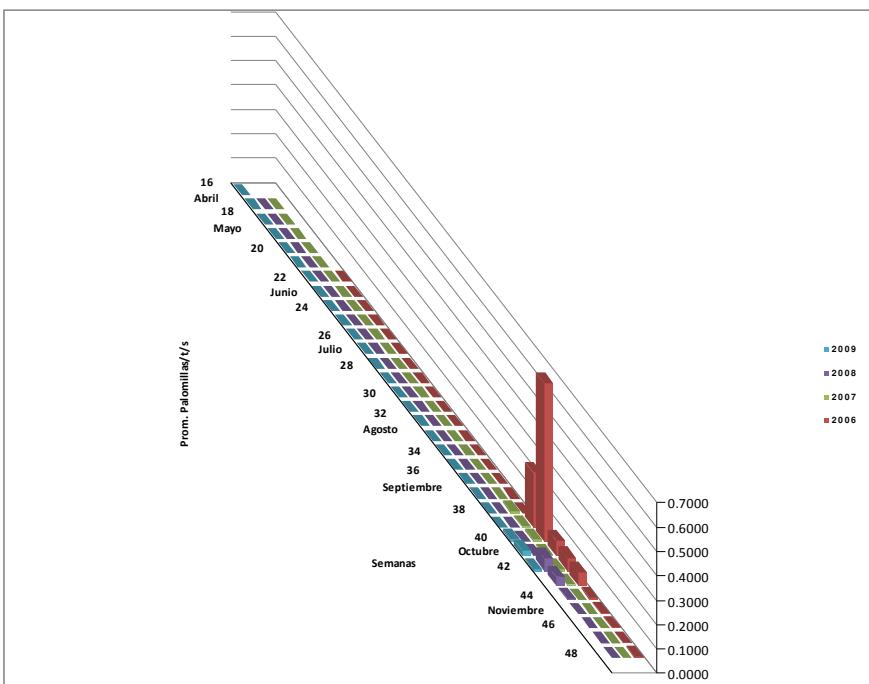
REGION CENTRO-SUR OJINAGA (central region)

AÑO	SUP. TOTAL (HA)	SUP. No Bt		HA PB ROPE	% PB ROPE
2002	1,382	803	42-58	803	100
2003	3,987	1,907	52-48	1,907	100
2004	9,541	1,715	82-18	1,715	100
2005	10,936	1,641	85-15	130	8
2006	20,102	3,721	81-19	245	7
2007	19,885	7,896	60-40	769	10
2008	19,670	11,465	42-58	248	2
2009	12,585	3,930	69-31	315	8

Ojinaga is in the northeastern/central area of the State of Chihuahua as highlighted. You can see the history of hectares for Ojinaga with the corresponding percentages. You can also see the total hectares of PB Rope annually, as well as the percentage in relation to the total hectares for this area.

## DETECCION REGION CENTRO SUR OJINAGA

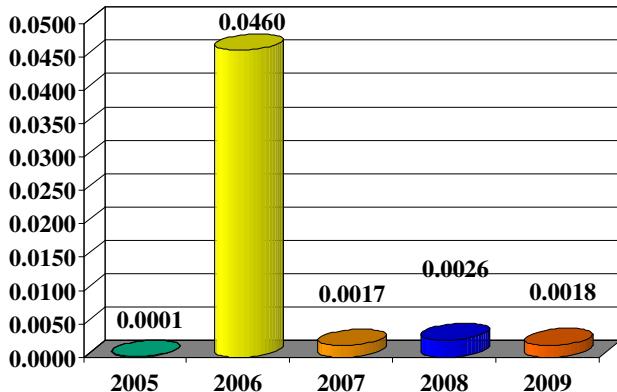
MES	SEMANA	2005	2006	2007	2008	2009
Abril	16					0.0000
				0.0000	0.0000	0.0000
Mayo	18			0.0000	0.0000	0.0000
				0.0000	0.0000	0.0000
	20			0.0000	0.0000	0.0000
		0.0000		0.0000	0.0000	0.0000
	22	0.0010	0.0000	0.0000	0.0000	0.0000
Junio	24	0.0010	0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000	0.0000
	26	0.0000	0.0000	0.0000	0.0000	0.0000
Julio	28	0.0000	0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000	0.0000
	30	0.0000	0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000	0.0000
Agosto	32	0.0000	0.0000	0.0008	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000	0.0000
	34	0.0000	0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000	0.0000
Septiembre	36	0.0000	0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000	0.0000
	38	0.0000	0.0000	0.0000	0.0000	0.0000
		0.0000	0.2219	0.0057	0.0000	0.0000
	40	0.0000	0.6507	0.0103	0.0000	0.0089
Octubre	42	0.0000	0.0640	0.0052	0.0038	0.0241
		0.0000	0.0537	0.0057	0.0566	0.0049
	44	0.0000	0.0513	0.0098	0.0341	
Noviembre	46	0.0000	0.0045	0.0000	0.0010	
		0.0000	0.0061	0.0000	0.0000	
	48	0.0000	0.0020	0.0000	0.0000	
		0.0000	0.0039	0.0000	0.0000	



This shows a history of the average moths per trap broken down weekly.

EVALUACION Y SEGUIMIENTO REGION CENTRO-SUR OJINAGA

(EVALUATION AND FOLLOW OJINAGA SOUTH-CENTRAL REGION)



HISTORICO DE CAPTURAS

Capture History

CICLO	PALOMILLAS
Year	Moths
2005	4
2006	5412
2007	136
2008	225
2009	85

PROMEDIO/CICLO

average / year

This shows a history of the annual average of moths per trap.

MONITOREO DE GUSANO ROSADO EN CARRETERAS  
(MONITORING HIGHWAY pink bollworm)



CAMARGO-CIENES (hundreds)

TRAMPA (trap)	CAPTURAS (captures)			
	2006	2007	2008	2009
62	9	1	0	0
60	4	0	0	0
58	3	4	0	0
56	4	0	0	1
54	1	0	0	1
52	4	0	0	0
50	5	0	0	1
48	1	0	0	0
46	0	1	0	0
44	2	0	0	0
42	3	0	0	0
40	3	0	0	0
38	6	0	0	0
36	8	5	1	0
34	6	1	0	0
32	8	0	1	0
30	13	3	3	0
28	9	1	1	0
26	8	2	1	3
24	8	2	2	1
22	5	2	1	0
20	3	1	0	1
18	11	1	0	0
16	8	2	0	0
14	15	1	0	0
12	13	5	0	1
10	6	2	2	0
8	5	3	0	1
6	5	1	4	0
4	10	0	2	0
2	21	0	2	1
TOTAL	207	38	20	11

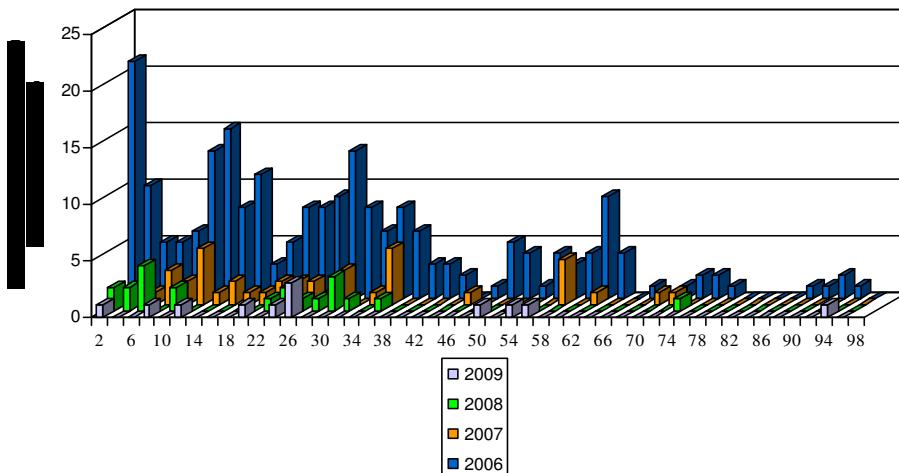
CIENES (hundreds) -OJINAGA

TRAMPA	CAPTURAS			
	2006	2007	2008	2009
96	0	0	0	0
94	1	0	0	1
92	2	0	0	0
90	1	0	0	0
88	1	0	0	0
86	0	0	0	0
84	0	0	0	0
82	0	0	0	0
80	0	0	0	0
78	1	0	0	0
76	2	0	0	0
74	2	0	1	0
72	1	1	0	0
70	0	1	0	0
68	1	0	0	0
66	0	0	0	0
64	4	0	0	0
TOTAL	16	2	1	1

COL. MENONITA  
LOS CIENES  
(hundreds)

This shows an annual break down of the pink bollworm trap line along the highway.

**MONITOREO DE GUSANO ROSADO EN LA CARRETERA  
CAMARGO OJINAGA (Pink bollworm MONITORING ON THE ROAD)**



Here you can see the cumulative adults per trap captured since 2006.

**EVALUACION Y SEGUIMIENTO REGION CENTRO-SUR**

**OJINAGA**

(EVALUATION AND FOLLOW SOUTH-CENTRAL REGION OJINAGA)

AÑO (year)	CAMPOS (total fields)	CAMPOS Bt (Bt fields)	No Bt (non-Bt fields)	CAMPOS CON LARVA (fields with larvae)	% DE CAMPOS INFESTADOS (% of infested fields)
2002	31	11	20	0	0
2003	97	49	48	0	0
2004	86	37	49	0	0
2005	56	26	30	0	0
2006	64	39	25	0	0
2007	42	20	22	0	0
2008	20	0	20	0	0
2009	10	0	10	0	0

Here is the annual number of fields for Ojinaga. You can see how many fields are Bt and non-Bt and the number of infested fields.

## CONCLUSIONES

## 1.-ASCENSION:

-En esta región, al igual que el ciclo anterior, no se tuvieron capturas de palomilla de rosado, por lo que no hubo necesidad de realizar tratamientos, el monitoreo se realizó conforme a lo establecido, detectándose una palomilla estéril en la zona de Palomas, Chih.

## **2.-JUAREZ:**

-En esta zona, se detectaron únicamente cuatro capturas, como se ve en la presentación se utilizaron como herramientas de control la liberación de insectos estériles, feromonas de confusión sexual y uso de variedades transgénicas.

### **3.-REGION CENTRO SUR MEOQUI Y OJINAGA**

-En esta región, aun cuando disminuyó el número de capturas, tanto en los predios de algodonero como en las trampas de la carretera, se sigue presentando la movilización de palomillas del sur hacia el Estado. Las palomillas detectadas no implicaron riesgo por lo tarde que se presentan.

Como una herramienta más de control, se destruyeron las plantas voluntarias de algodonero sobre la carretera de Ojinaga hacia los límites de Durango y Chihuahua, producto de la movilización de semilla de algodón

In Ascension, like the previous cycle, there were no captures, so there was no need for treatments.

In Juarez, there were only four captures. As shown in the presentation, the tools used to control pink bollworm were the release of sterile insects, pheromone PB Rope and the use of transgenic varieties of cotton.

In Ojinaga, captures decreased in cotton as well as the traps along the road. As another tool of pink bollworm control, volunteer cotton plants are destroyed.

Ted Boratynski introduced the next speaker reporting for Durango, Ing. Leobaldo Ramirez Ramirez.