

# Pink Bollworm Eradication in Arizona Cotton 2009 Progress Update

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## INTRODUCTION

The Pink Bollworm (*Pectinophora gossypiella*), has historically been the most serious insect pest of cotton in Arizona. In some areas of Arizona, control of Pink Bollworm historically required multiple hard chemical sprays each season. Annual production losses to Pink Bollworm were estimated in the 30 million dollar range.

Due to technological advancements in the last thirty years, a plan was developed to eradicate the Pink Bollworm from key cotton growing areas in the US and Mexico. The program, utilizes pheromone trapping, pheromone mating disruption, high levels of Bt Cotton, sterile Pink Bollworm releases and limited insecticide treatments in a prescribed approach to achieve eradication.

Arizona growers voted to join the Bi-National program with a 4 year time frame to achieve eradication in each of three regions in Arizona.

## METHODS

### 1. Mapping (GPS)

- Field Locations
- Acreage
- Cotton Types (Bt vs. Non-Bt) ELISA test system

### 2. Detection

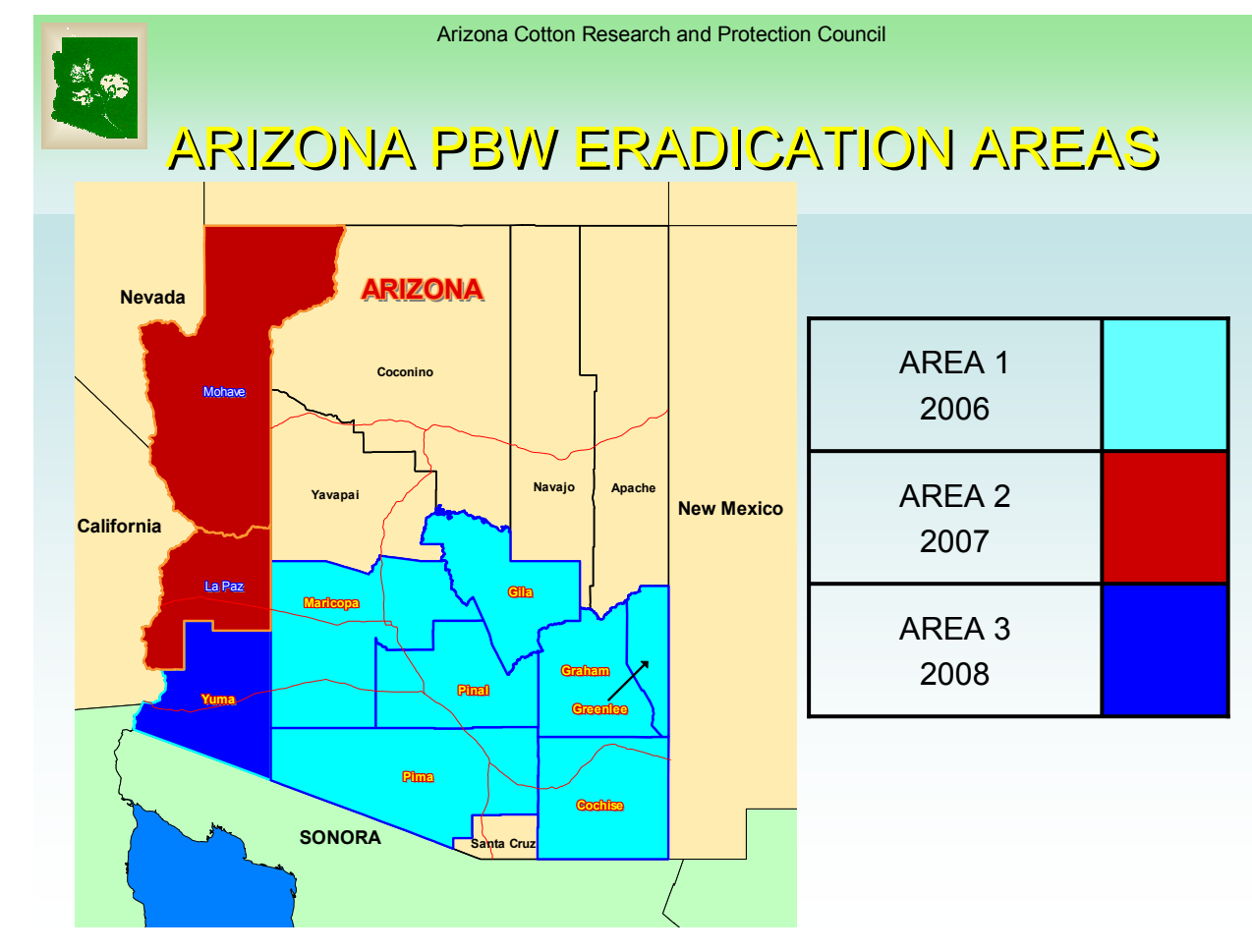
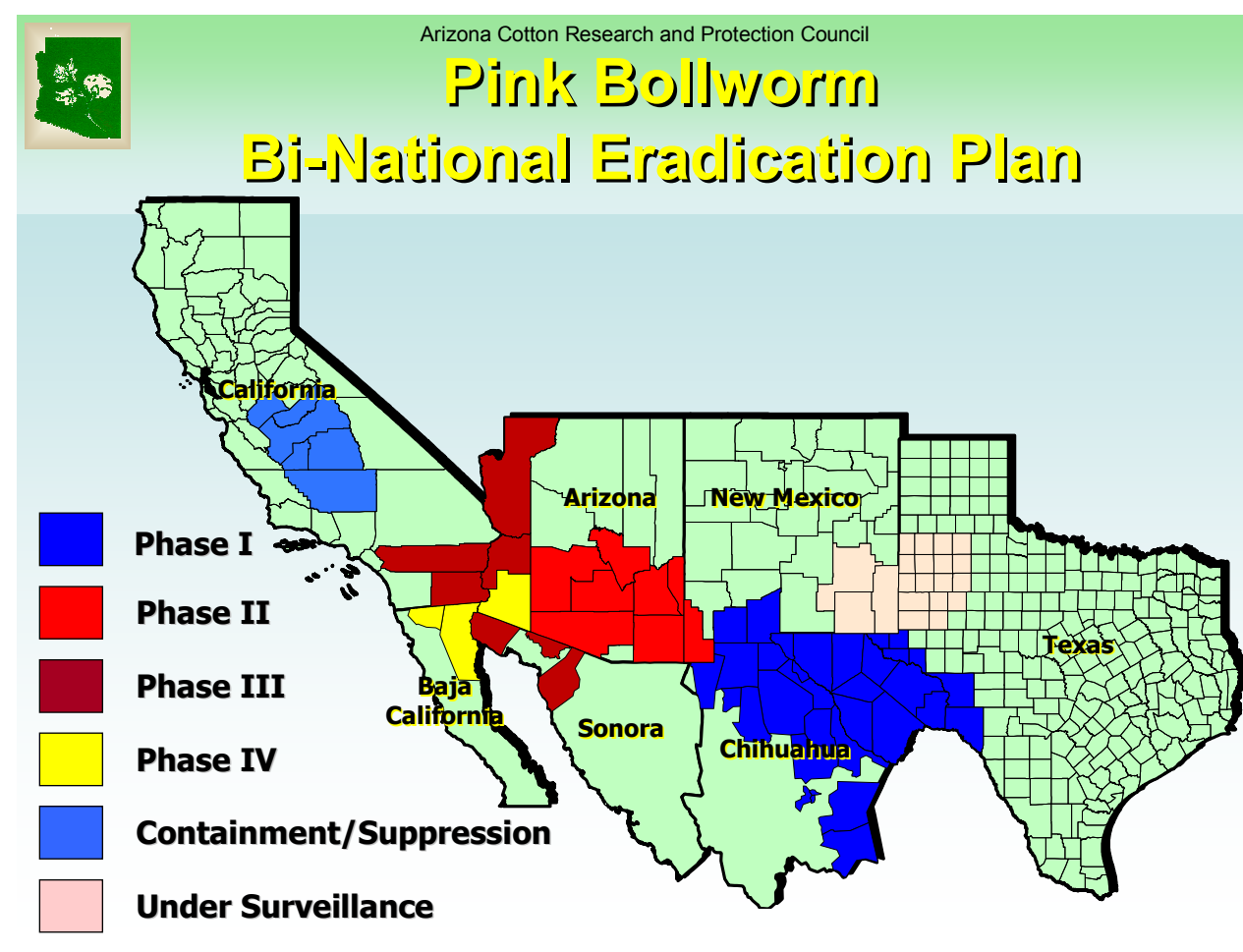
- Density-1/40 Bt : 1/10 Non-Bt
- Position.....On Field Perimeters
- Inspection Intervals.....Weekly
- Pheromone .....Weekly

### 3. Control

- Cultural Practices
- Bt Transgenic Cotton
- Mating Disruption (Pheromone)
- Sterile PBW Moth Releases
- Limited Insecticide



## SCOPE



### PBW ERADICATION PROGRAM STATISTICS 2009

ARIZONA TOTALS		
TYPE	ACRES	FIELDS
BT	144,583.26	4,585
NON-BT	3,077.86	102
OKRA	346.90	14
PIMA	1,595.96	60
<b>TOTAL NBT</b>	<b>4,673.82</b>	<b>162</b>
<b>TOTAL ACRES</b>	<b>149,257.08</b>	<b>4,747</b>
<b>% NBT</b>	<b>3.13%</b>	

## CONCLUSIONS

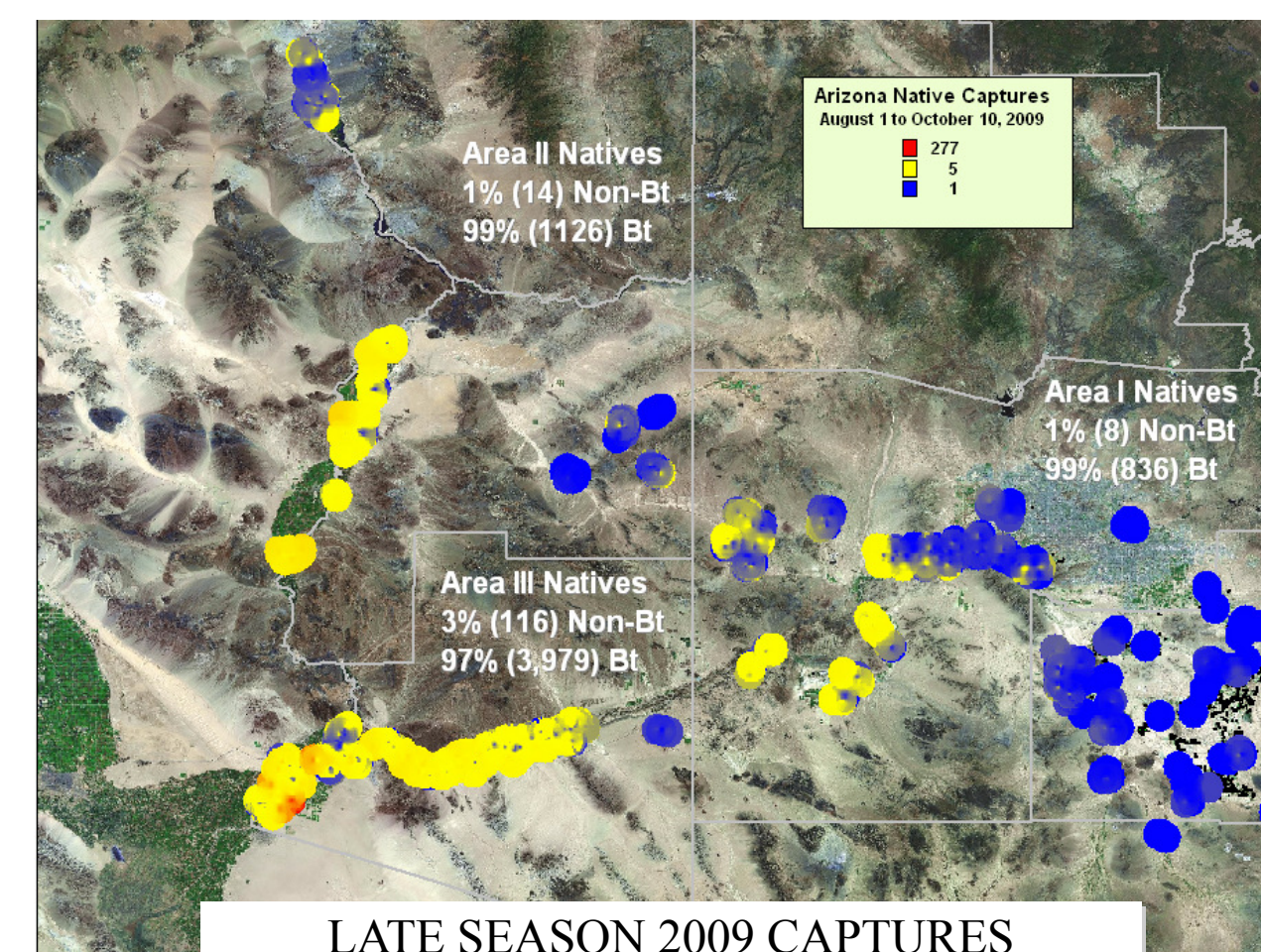
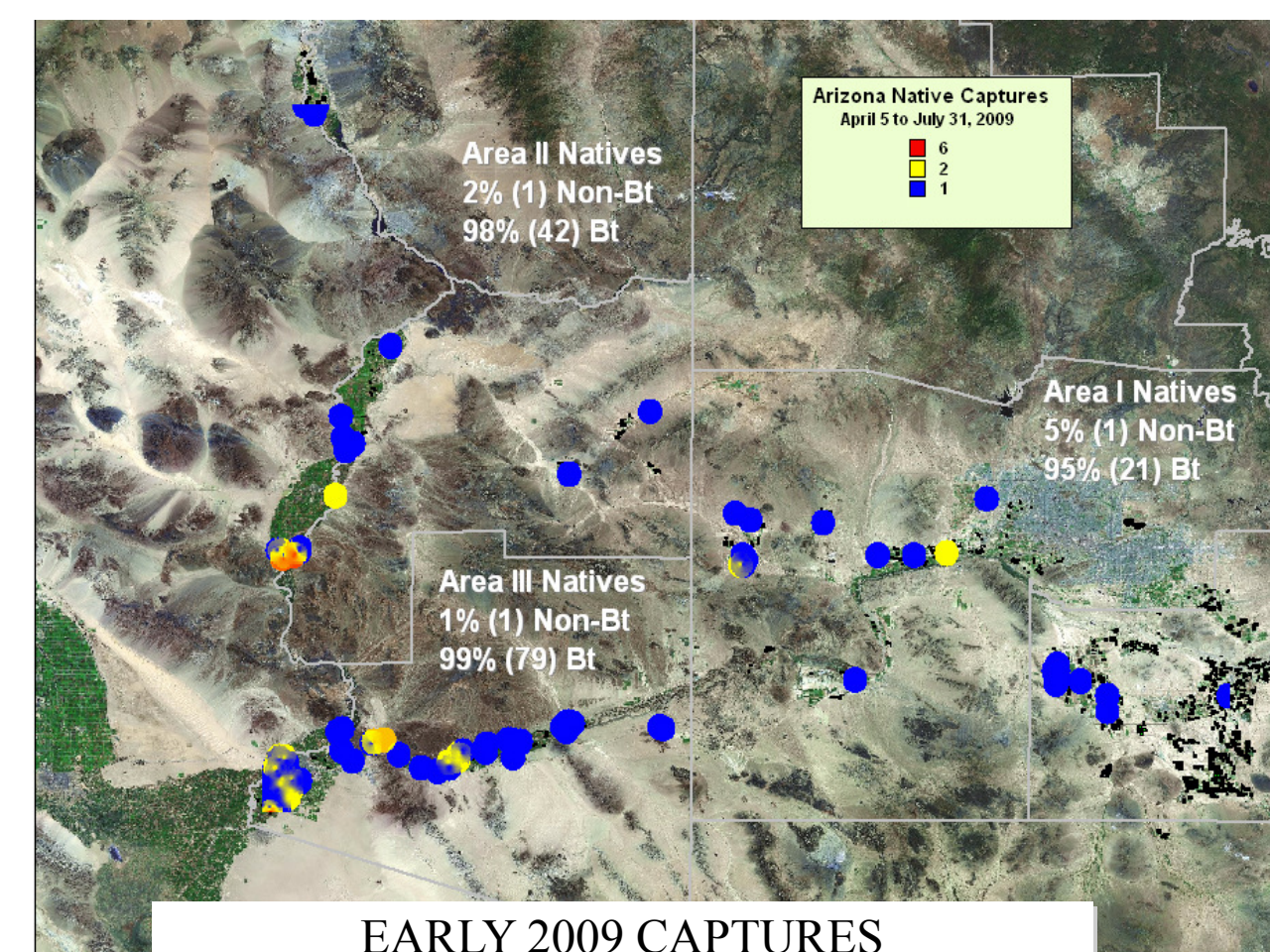
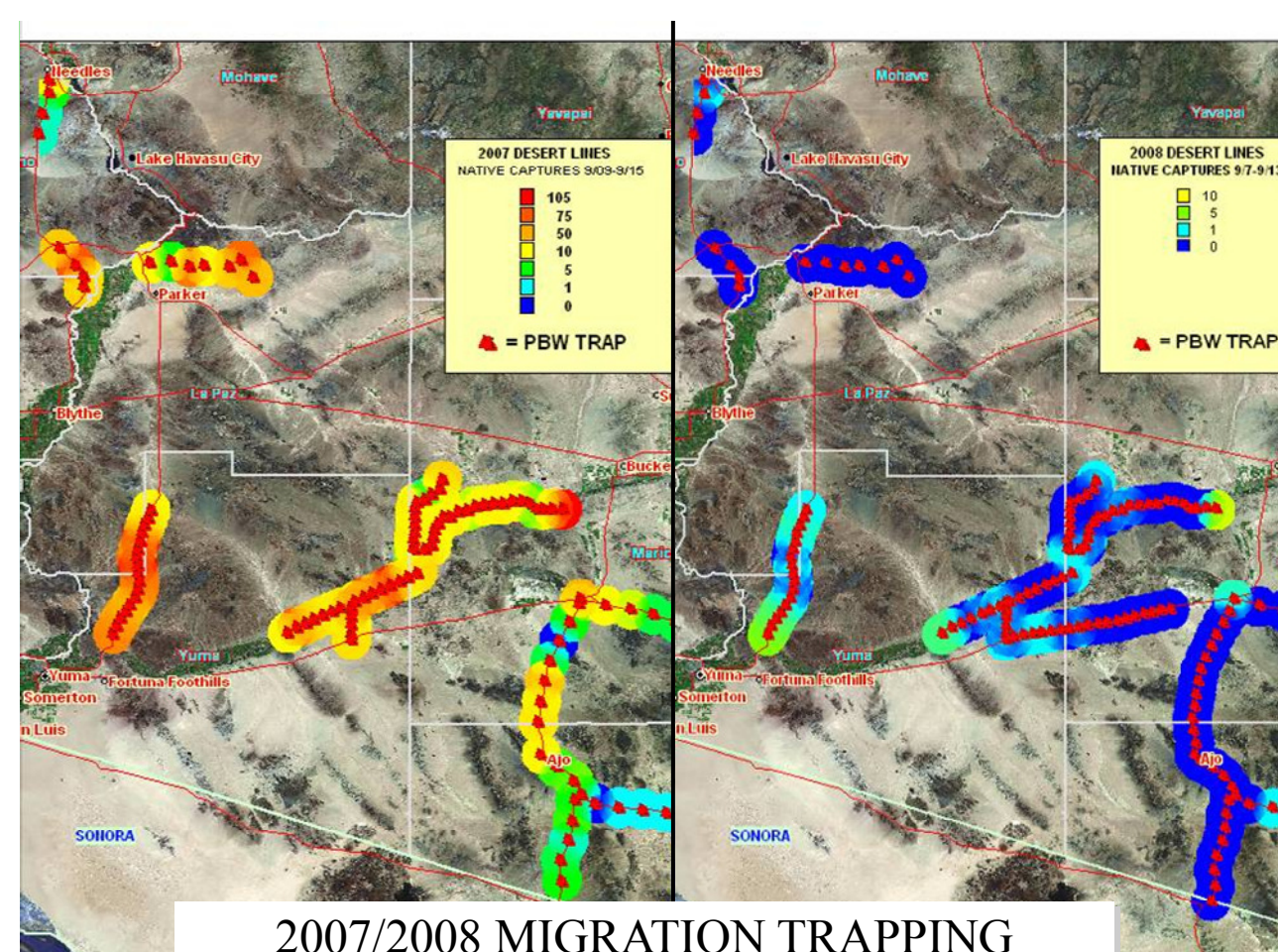
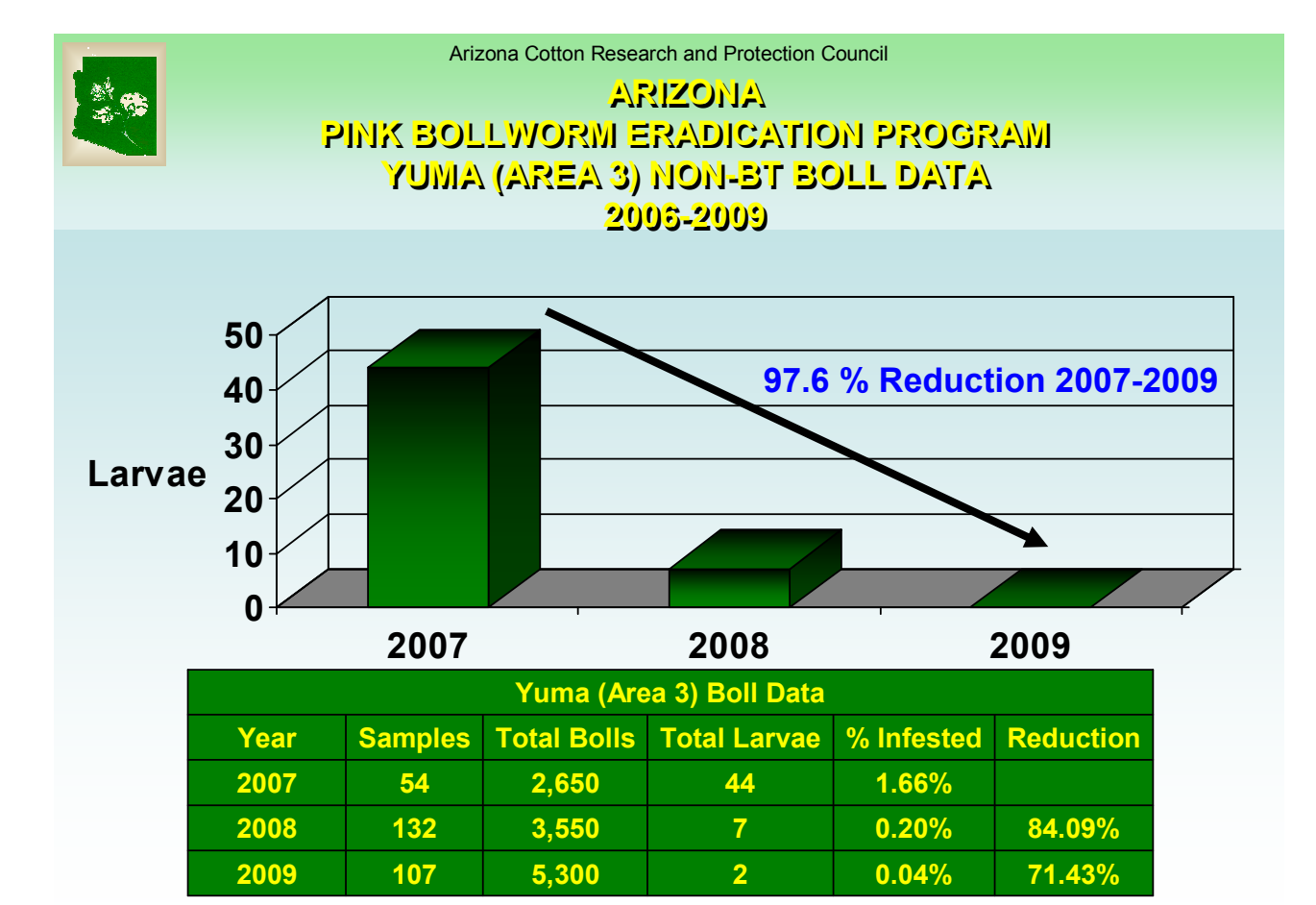
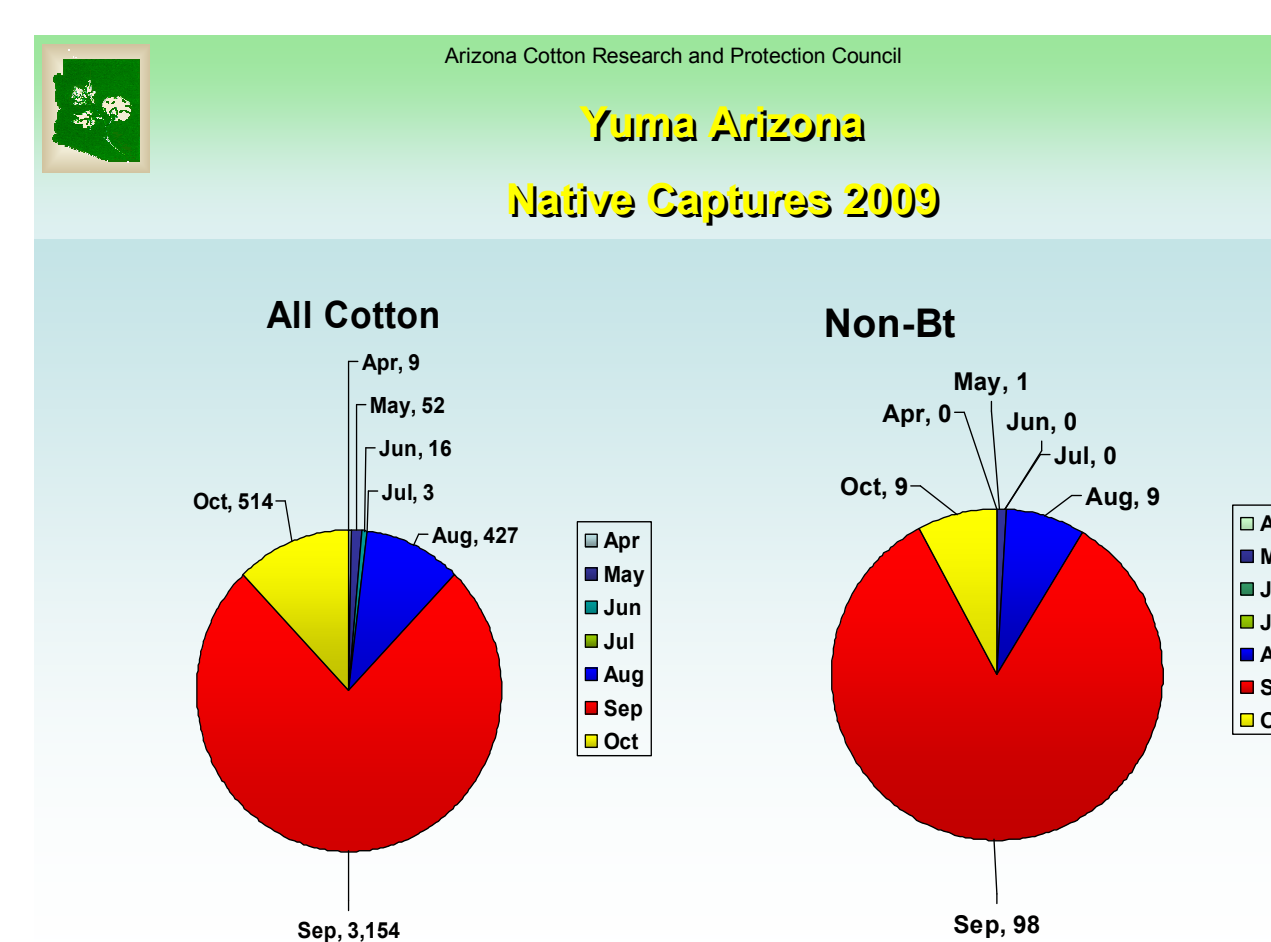
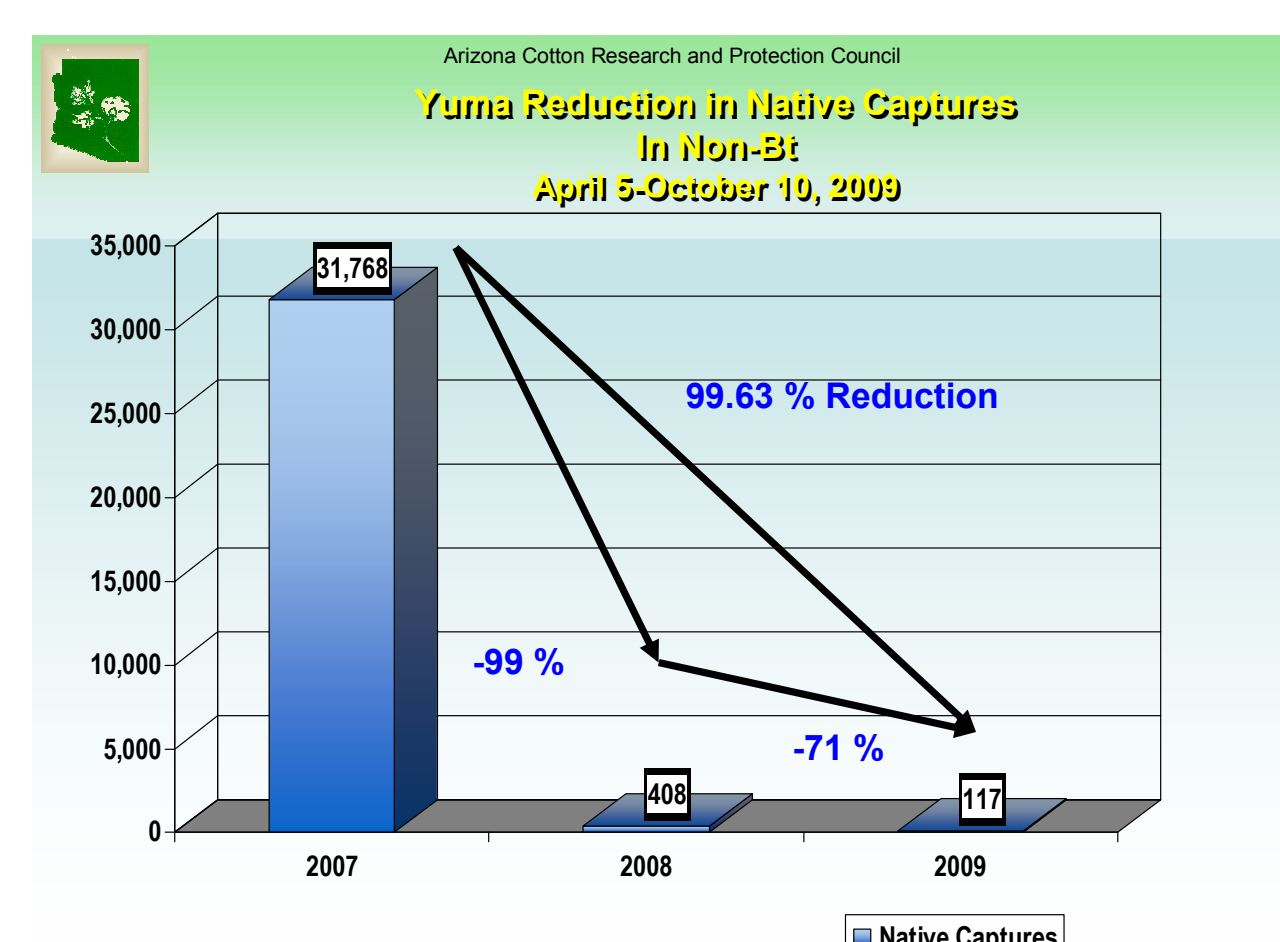
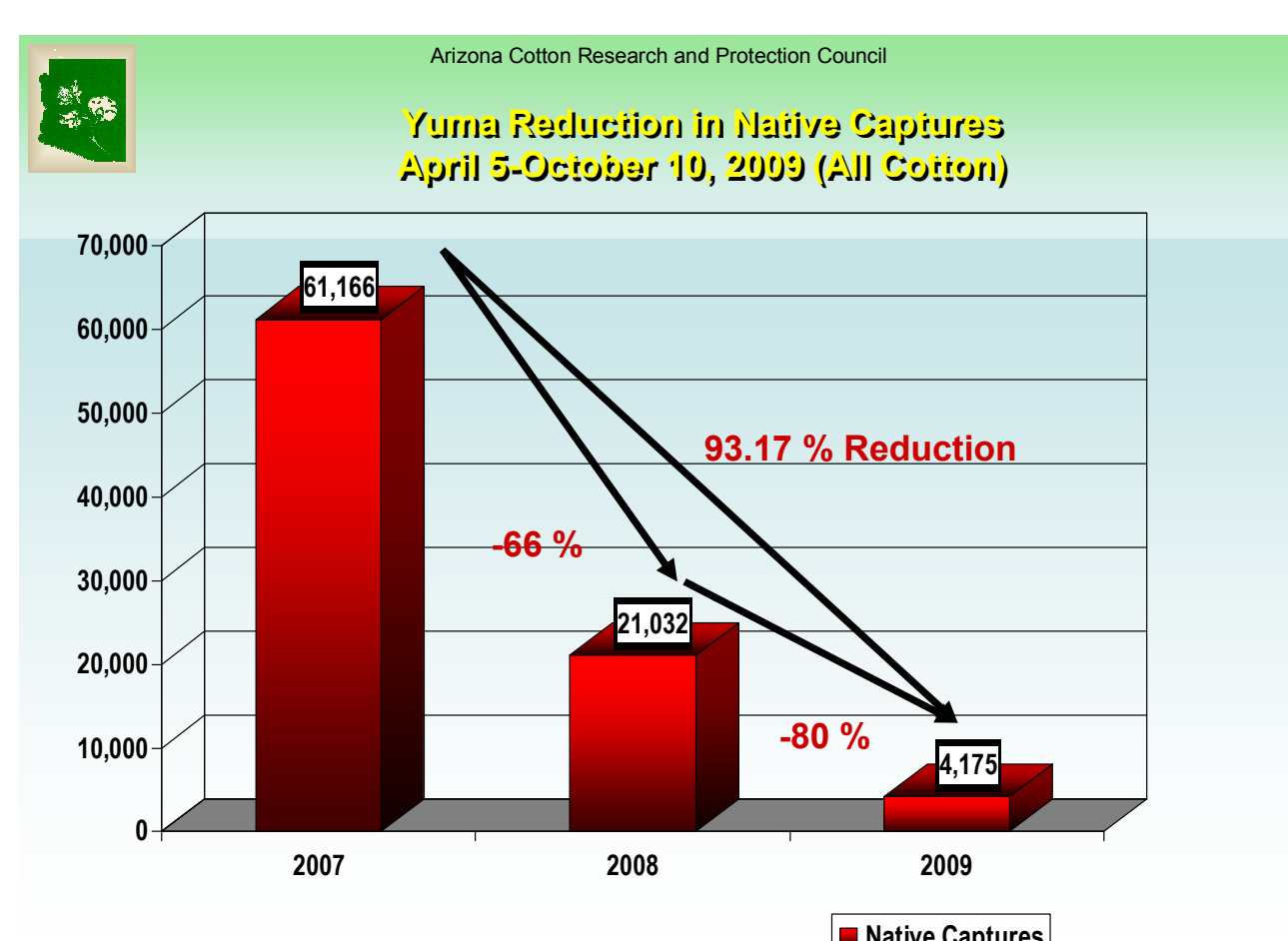
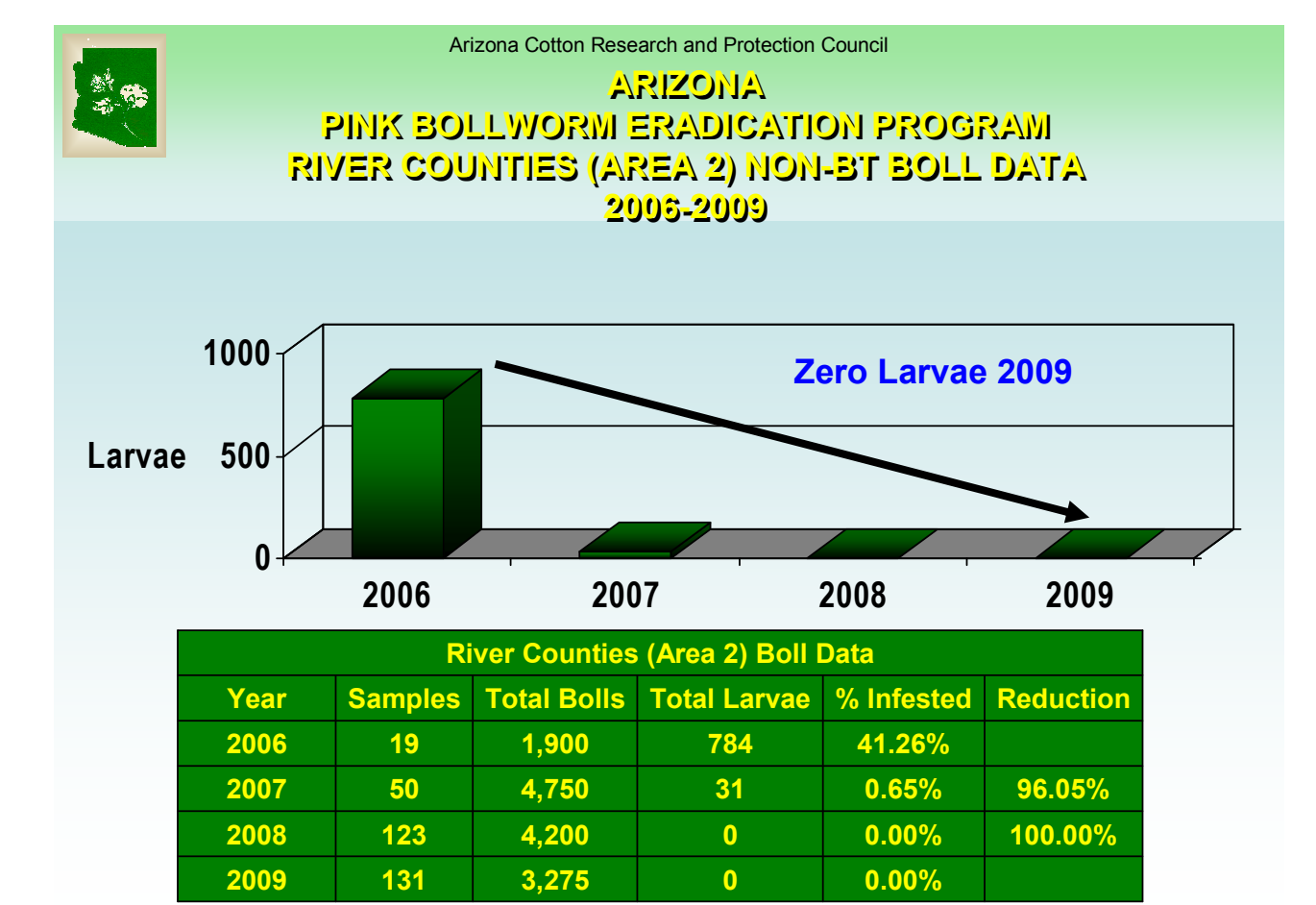
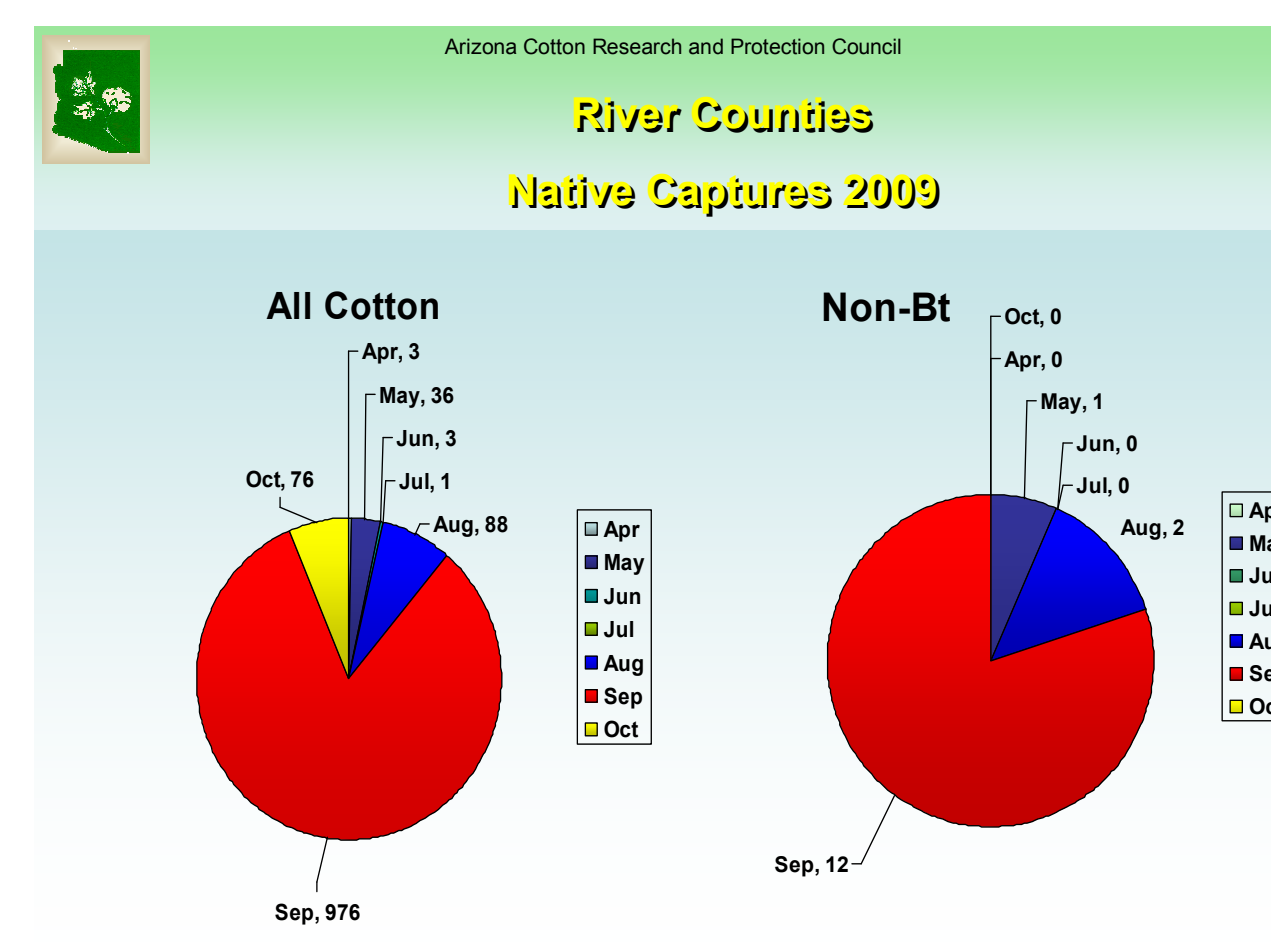
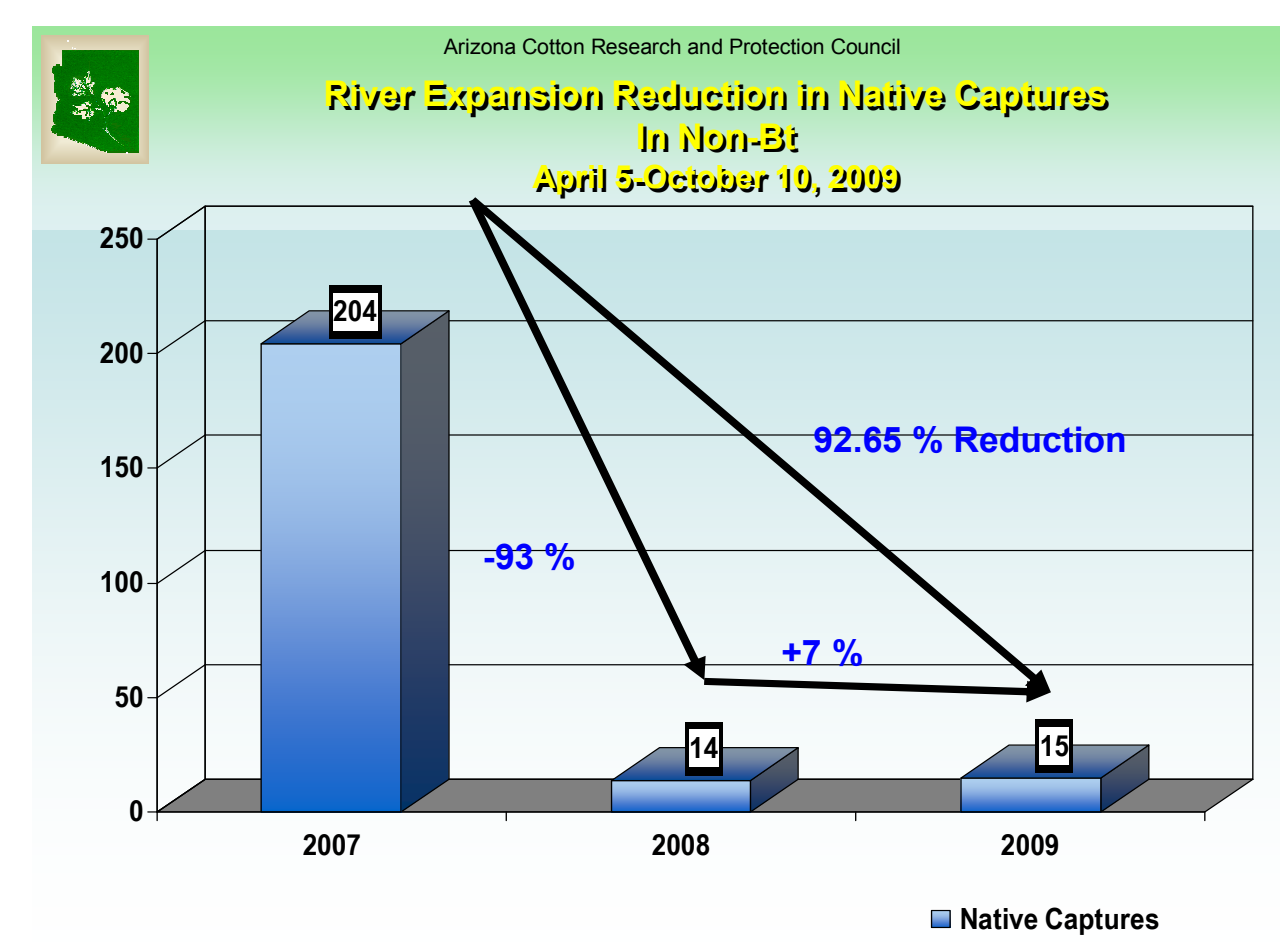
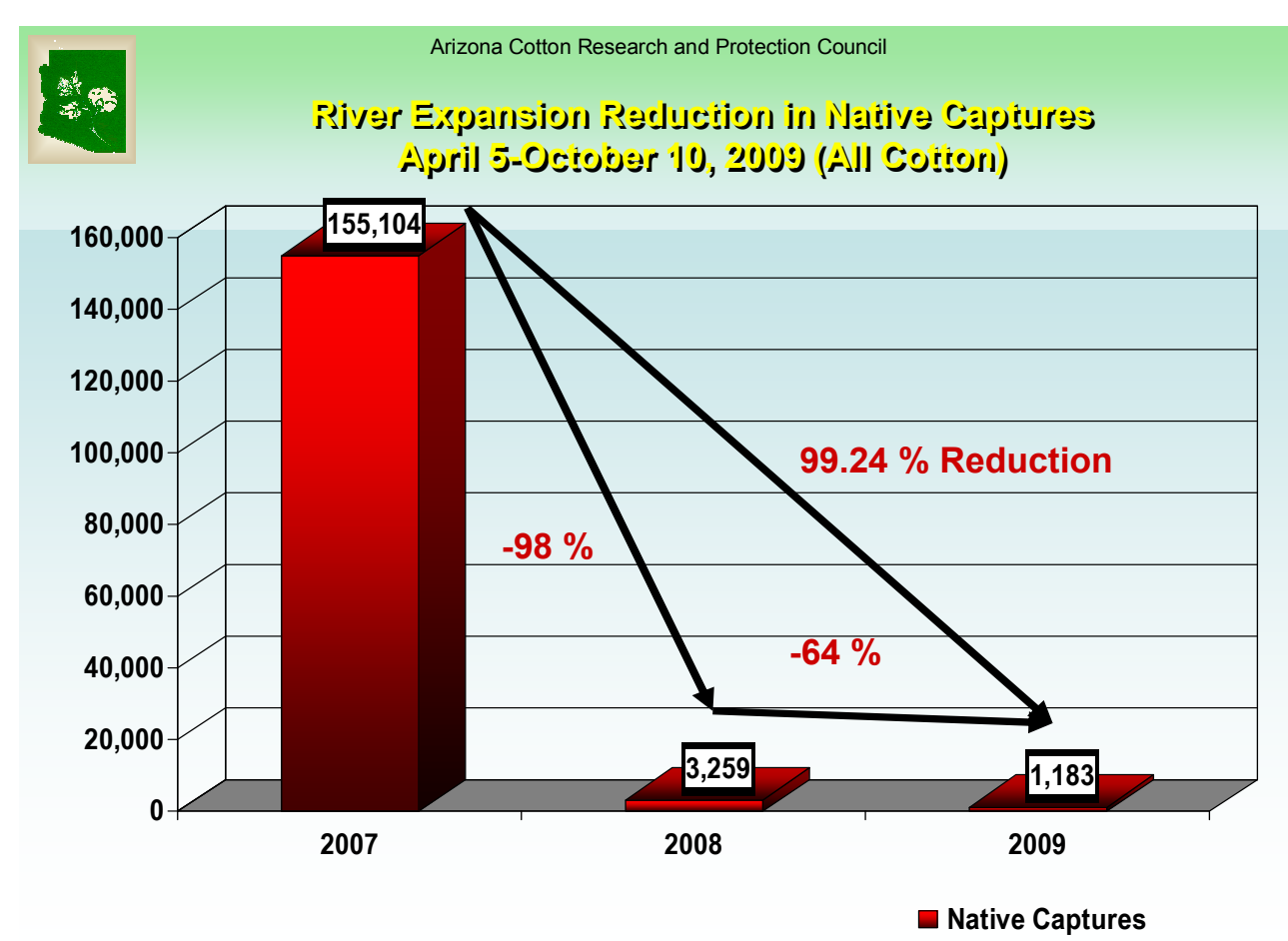
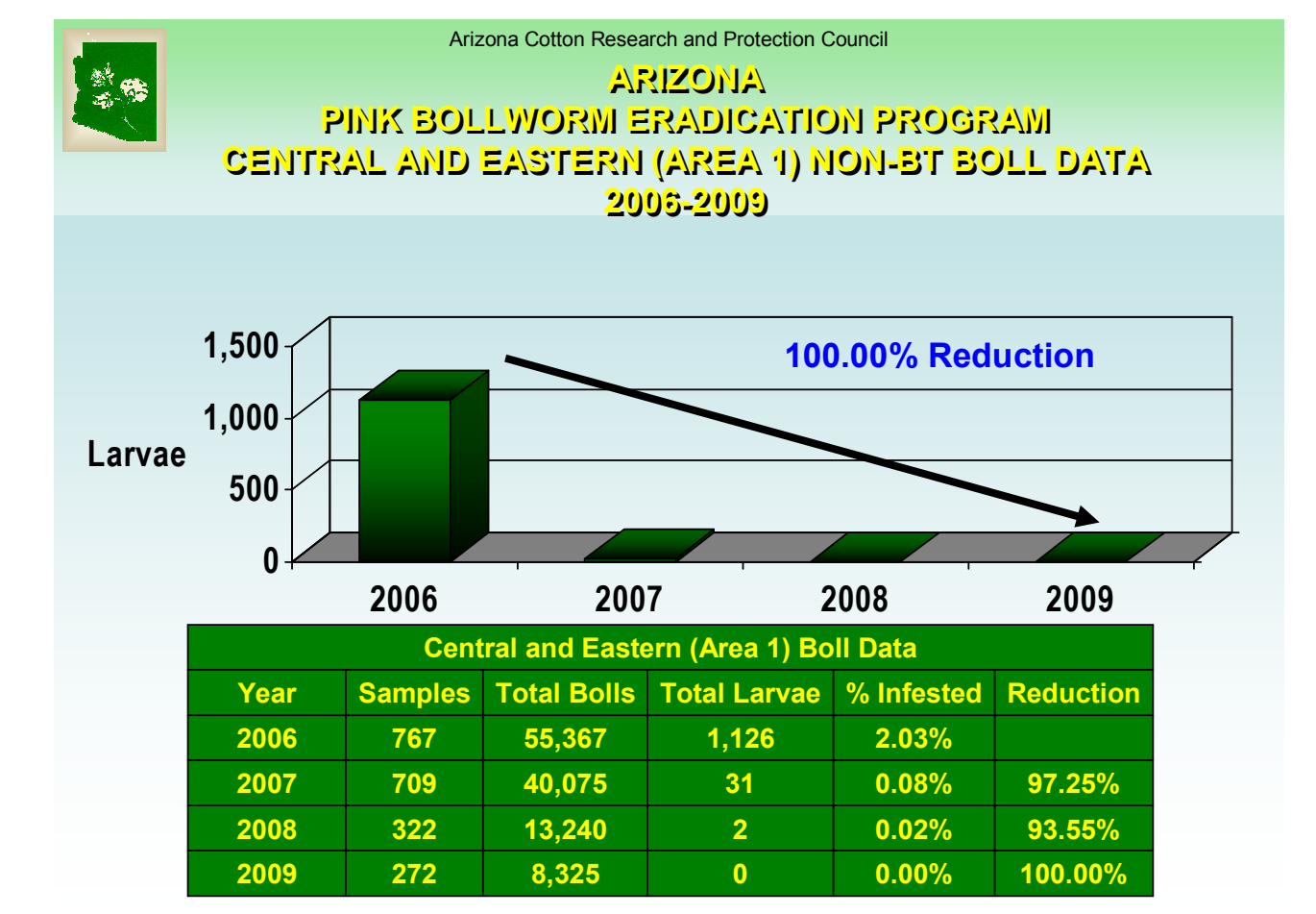
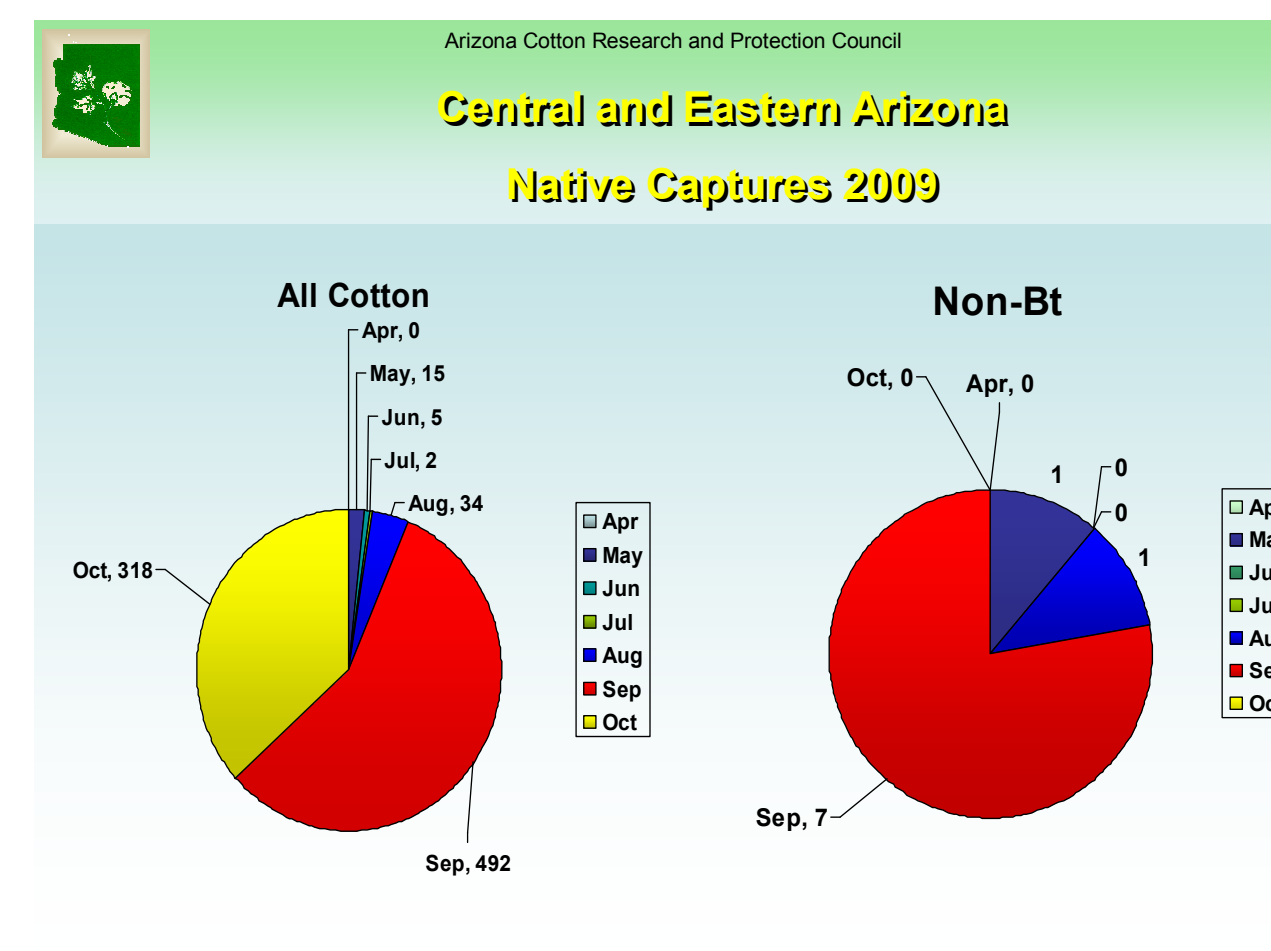
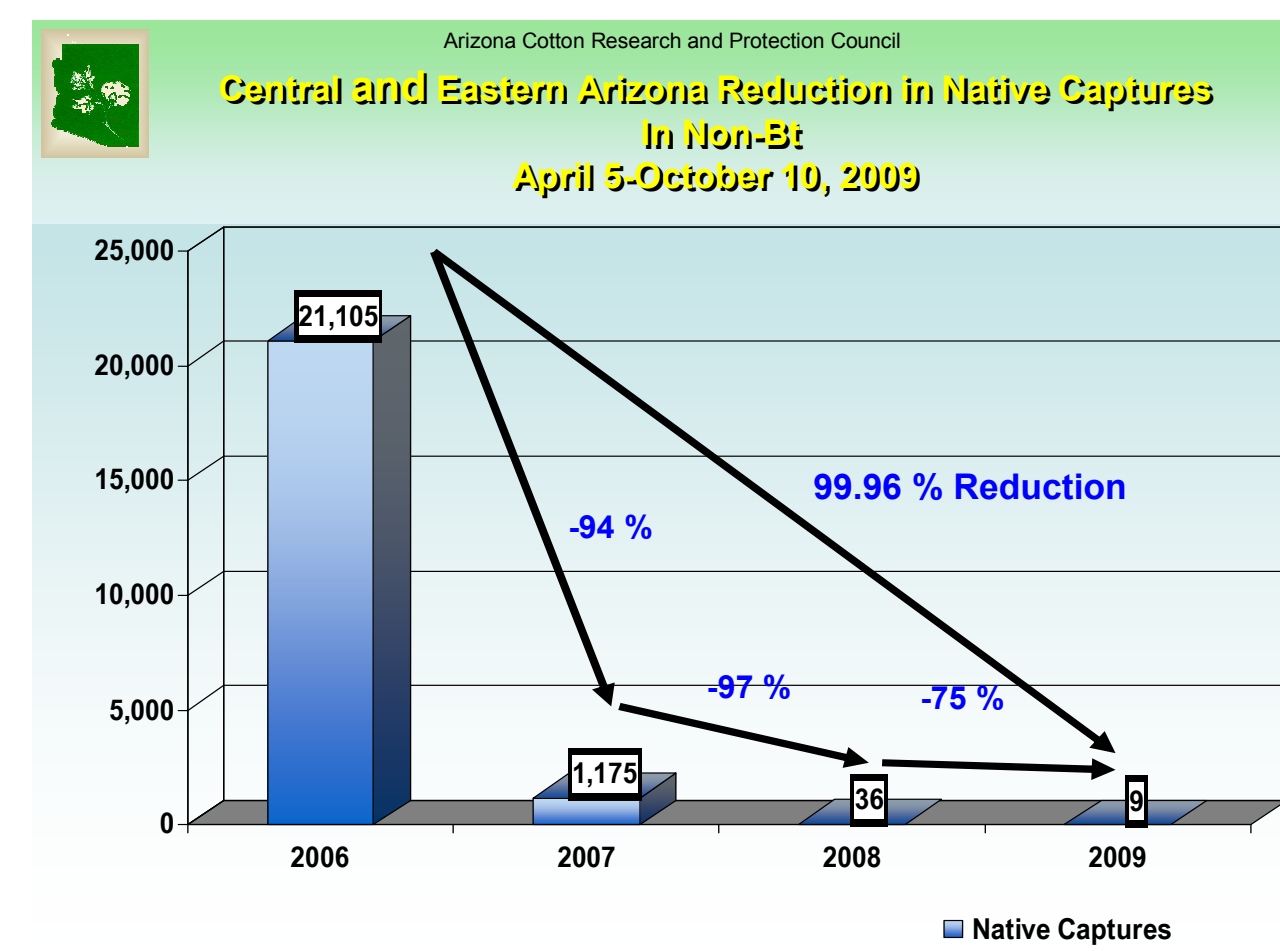
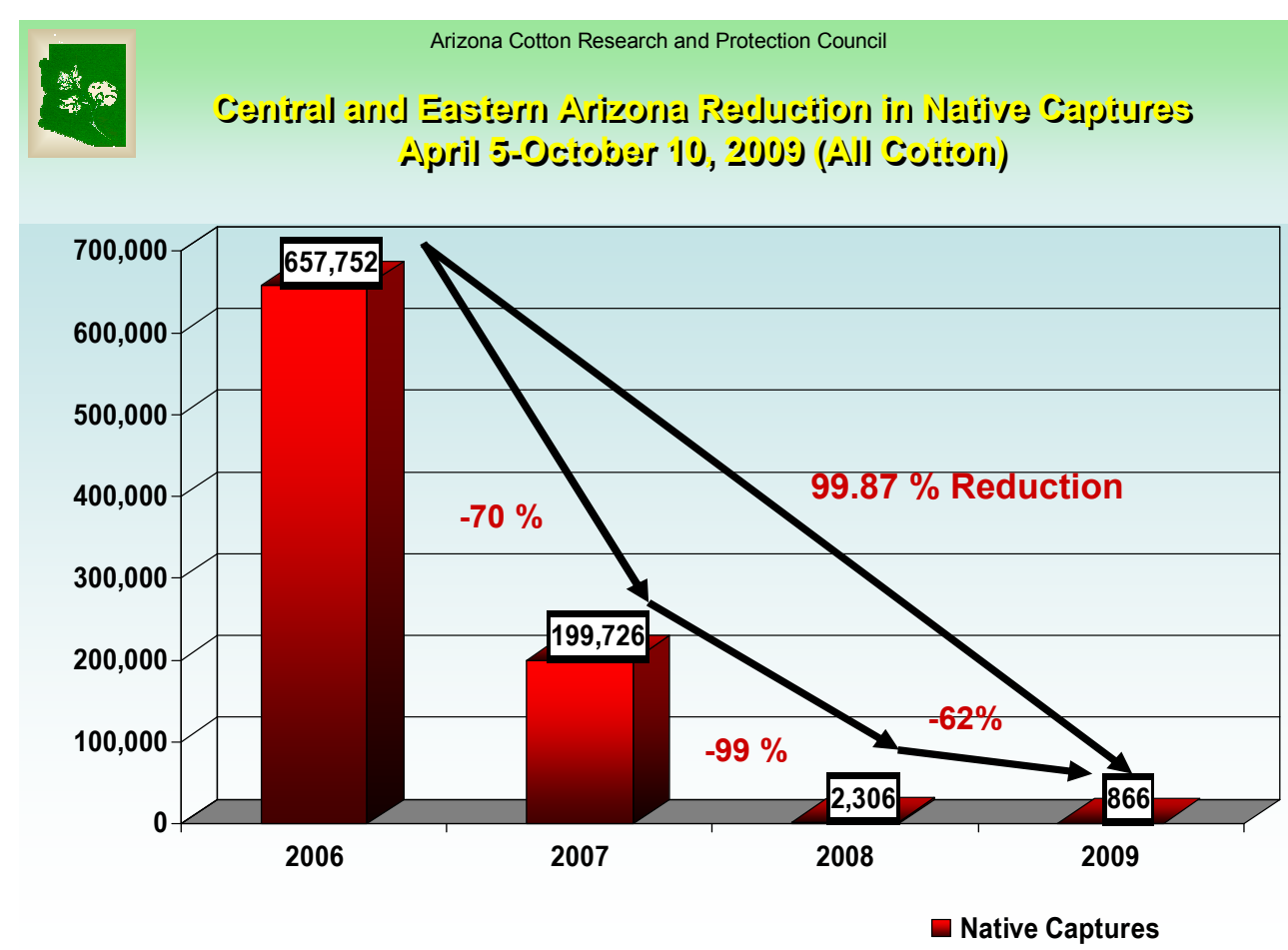
In 2006, Arizona began efforts to eradicate the Pink Bollworm in Central and Eastern Arizona, the first of three strategic regions in Arizona. The River Counties and Yuma (Regions II & III) followed in 2007 and 2008 respectively.

Central and Eastern Arizona will enter the "Confirmation of Eradication" phase in 2010 with regions II & III anticipated to follow in 2011 and 2012 respectively.

High levels of Bt cotton, pheromone disruption and sterile insect releases have been the major tools used to reach current levels of Pink Bollworm population reduction.

Pink Bollworm eradication is linked to a record low in pesticide use to control Pink Bollworm and other insects in Arizona Cotton.

## ARIZONA RESULTS



### TREATMENT DATA

FIELDS REQUIRING ADDITIONAL TREATMENT

2006	205
2007	30 FIELDS (15 EARLY SEASON/ 15 LATE SEASON)
2008	CENTRAL, EASTERN AND RIVER COUNTIES 1 FIELD
2009	YUMA (YEAR 1) 8 FIELDS

35 FIELDS LATE SEASON PHEROMONE FIBER TREATMENTS