

# **JAMAICA'S BEEKEEPING INDUSTRY**

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# Jamaica's Beekeeping Industry

- Structure
- Present and future Value
- Distribution of stock
- Factors affecting production

# Source of Information

- Beekeeping **Census** 2005 and 2008/2009;
- Data collected in the National **Field Inspection** of All Apiaries in Jamaica for 2011;
- Team discussions along with **stake holders** contribution; and
- WTO honey **trade data**.

# Products Generated In Jamaica



HONEY



# Straining of honey



# Export of Jamaican Honey

Period	Trade Flow	Reporter	Partner	Trade Value	NetWeight (kg)
2008	Export	Jamaica	World	\$1,988	312
2009	Export	Jamaica	World	\$732	128
2010	Export	Jamaica	World	\$5,525	970
2011	Export	Jamaica	World	\$20,607	4,176
2012	Export	Jamaica	World	\$7,336	1,224

Period	Partner	Trade Value	NetWeight (kg)
2008	USA	\$1,330	241
2008	Canada	\$356	39
2008	Barbados	\$302	32
2009	USA	\$732	128
2010	USA	\$2,552	758
2010	China	\$1,901	10
2010	Canada	\$995	126
2010	Cayman Isds	\$78	77



Period	Partner	Trade Value	NetWeight (kg)
2011	Bahamas	\$10,439	3,637
2011	Japan	\$8,764	50
2011	USA	\$789	247
2011	Cayman Isds	\$463	216
2011	United Kingdom	\$153	26

Period	Partner	Trade Value	NetWeight (kg)
2012	Japan	\$2,745	25
2012	Bahamas	\$1,462	477
2012	United Kingdom	\$1,342	338
2012	Italy	\$993	178
2012	Cayman Isds	\$490	162
2012	USA	\$262	41
2012	Canada	\$41	3

# Honey and Bee Wax



# Pollen



# Examination of pollen





# Honeybees



# Apiary in back ward



# Location of Apiary







# Apiary in a citrus growing area



# Products Generated In Jamaica

Main **products** generated by the bee-keeping subsector.

- Honey
- Bee Wax
- Royal Jelly
- Pollen
- Propolis
- Venom
- New Colonies(Bees)
- Queens

# Legal Framework

Legal Framework / Standards	Actions Required
<b>Bee Control Act</b>	Part of Act not relevant in today's time; Charges small; Upgraded needed
<b>Caricom Regional Honey Standards</b>	Not easily accessed by players; Still a draft; Implemented
<b>Pesticide Control Act</b>	Increase monitoring required;
<b>Environmental Act</b>	<b>Need revision, Implementation and monitoring</b>

Institutions involves in Actions	Functions Performed	Efficiency
Bee Farmer Groups	Are the producers and distributors of the products	Med
Ministry of Health (Pesticide control Authority)	Regulate pesticide use (food safety)	Med.- High
Ministry of Agriculture & Fisheries (R&D, Veterinary Services Division)	Regulate, conduct research and provide an extension service	Med
Ministry of National Security ( <b>Police</b> )	Implement parts of the Bee Control Act	Med
Bureau of Standards, Jamaica / JEA	Regulate the food trade for food safety	Med-High
Financial Institutions (Commercial Banks, Building Societies and Other funding agencies)	Provide financial assistance for production and marketing	Low

Institutions involves in Actions	Functions Performed By These Institutions	Efficiency
International Funding Agencies or their partners (IICA, USAID, Consulates, CIDA, CARDI)	Facilitate production through grant funding or facilitate trade	High
International regulators (EU commission and USDA / FDA/OIE)	Regulate Export trade	High
Local Input suppliers (farm stores, equipment producers)	Facilitate input for the industry	Med
International equipment manufactures and or suppliers	Source of imported inputs eg. stainless steel equipment	Low
Manufacturers of value added items	Purchasers of honey for value added production	Low
Supermarkets/retail stores/ Sole traders	Retailers of honey	med

<b>Inputs</b>	<b>Disadvantages</b>	<b>Advantages</b>	<b>Env. Impact</b>	
<b>Availability of quality Bee stock</b>	<b>Not readily Available (No breeding facility)</b>	<b>Stock performance can be improved if required</b>	<b>Positive</b>	
<b>Supplemental feed</b>	<b>Uncertain supply / expensive</b>		<b>Negligible</b>	
<b>Pesticides</b>	<b>Selective/ expensive / restrictive</b>	<b>Available and effective</b>	<b>Low</b>	
<b>Availability and quality of equipment</b>	<b>Available / high input cost with quality. Raw material not stocked piled. Extended delivery time.</b>	<b>Local wood used; timeliness of operations;</b>	<b>Low</b>	
<b>Input Industry</b>	<b>Exist but fragmented;</b>	<b>Cost variation</b>	<b>positive</b>	

# Beekeeping Development

The Apiculture Unit mandate :

- **Regulatory Apiculture:** Prevention, control and monitoring of bee pests to include control on importations
- **Apiculture Research:** Conducting meaningful research to enable the advancement of the Beekeeping Industry and the general Agricultural sector as a whole.
- **Beekeeping Extension:** This involves the provision and delivery of an efficient and effective extension service in the industry to ensure sustainability and improvement in the livelihood of those involved.







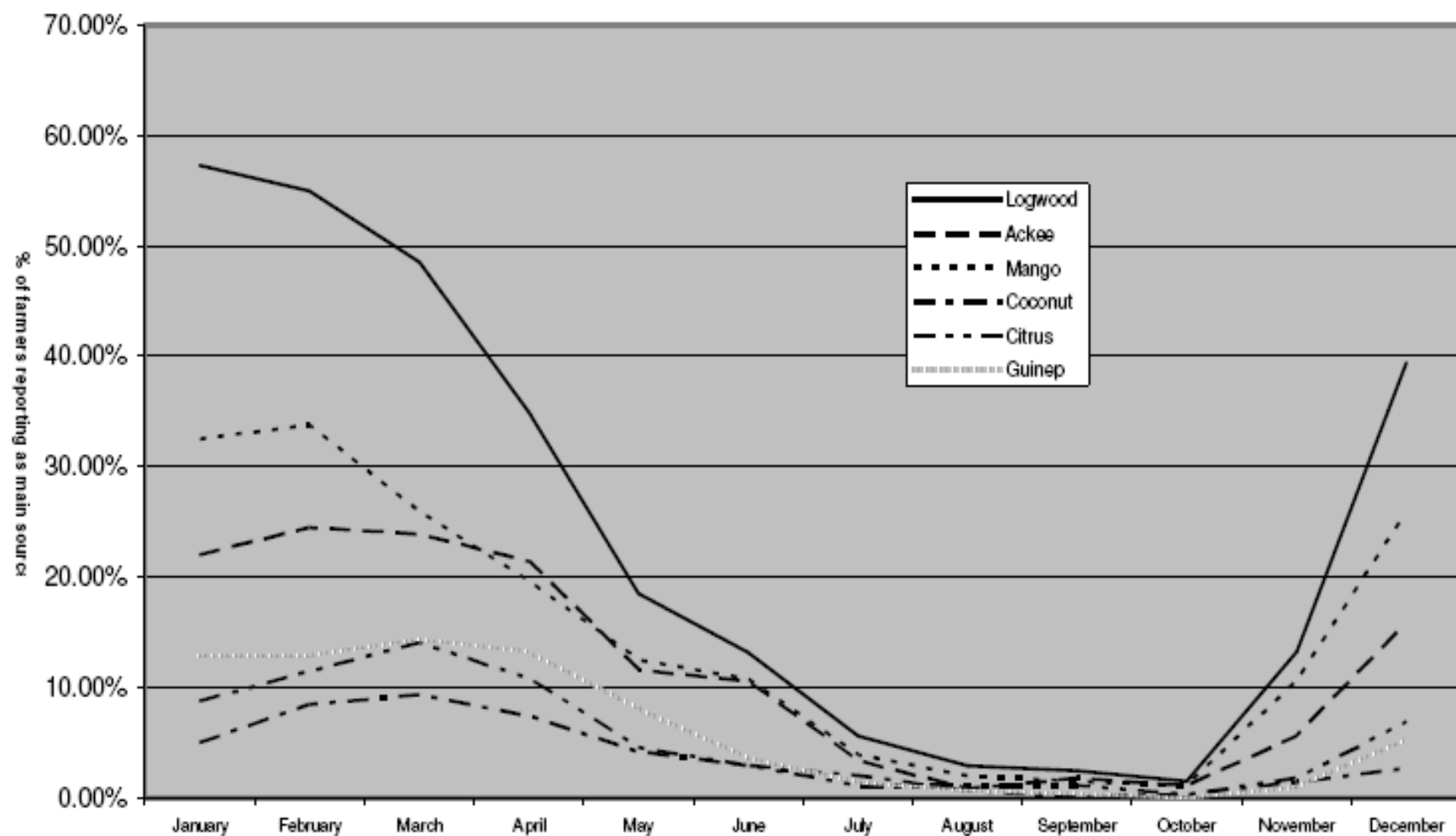




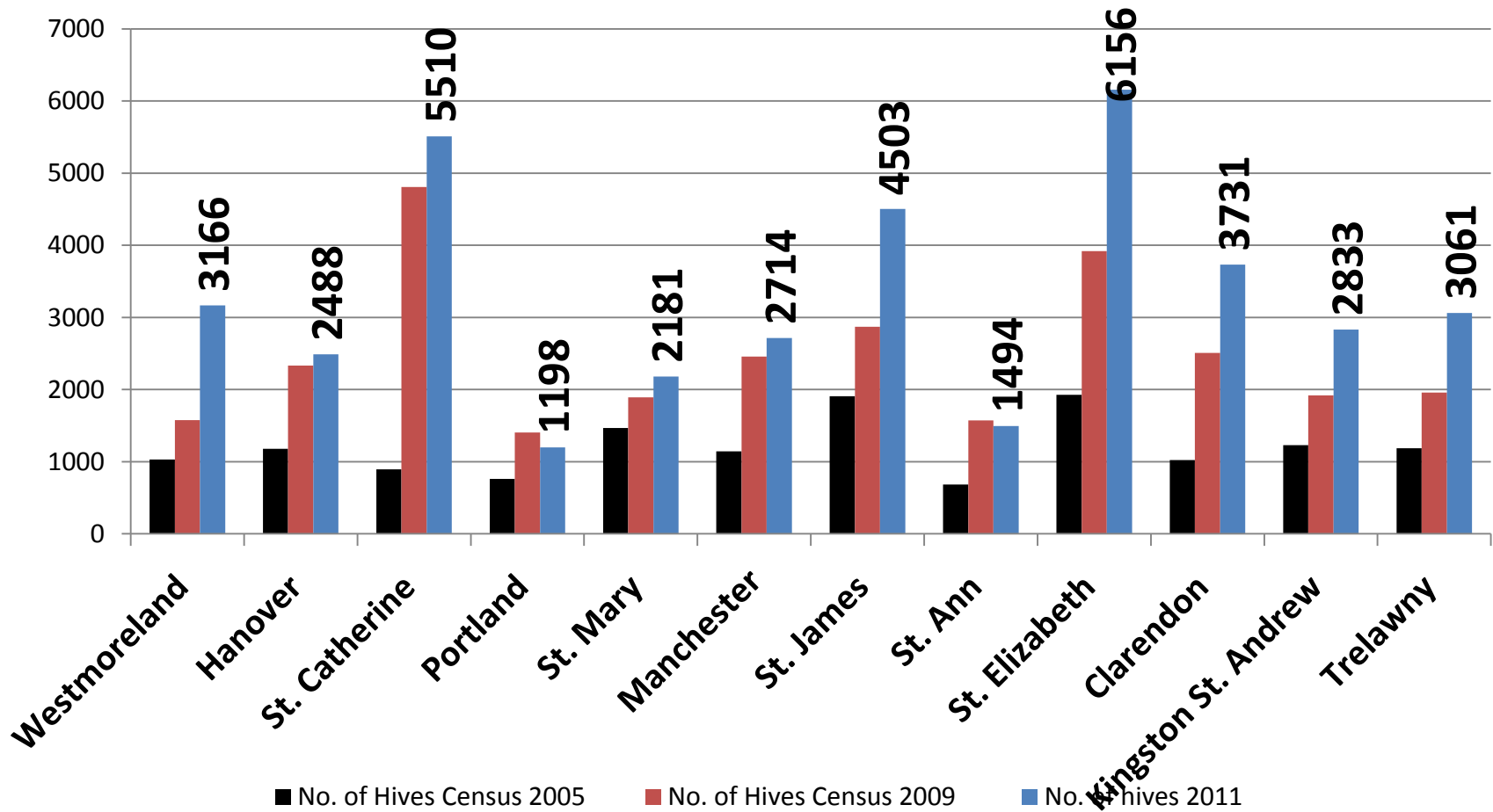
# Flowering Plants In Jamaica

- Log Wood
- Ackee
- Coconut
- Citrus
- Guinep
- Mangoes

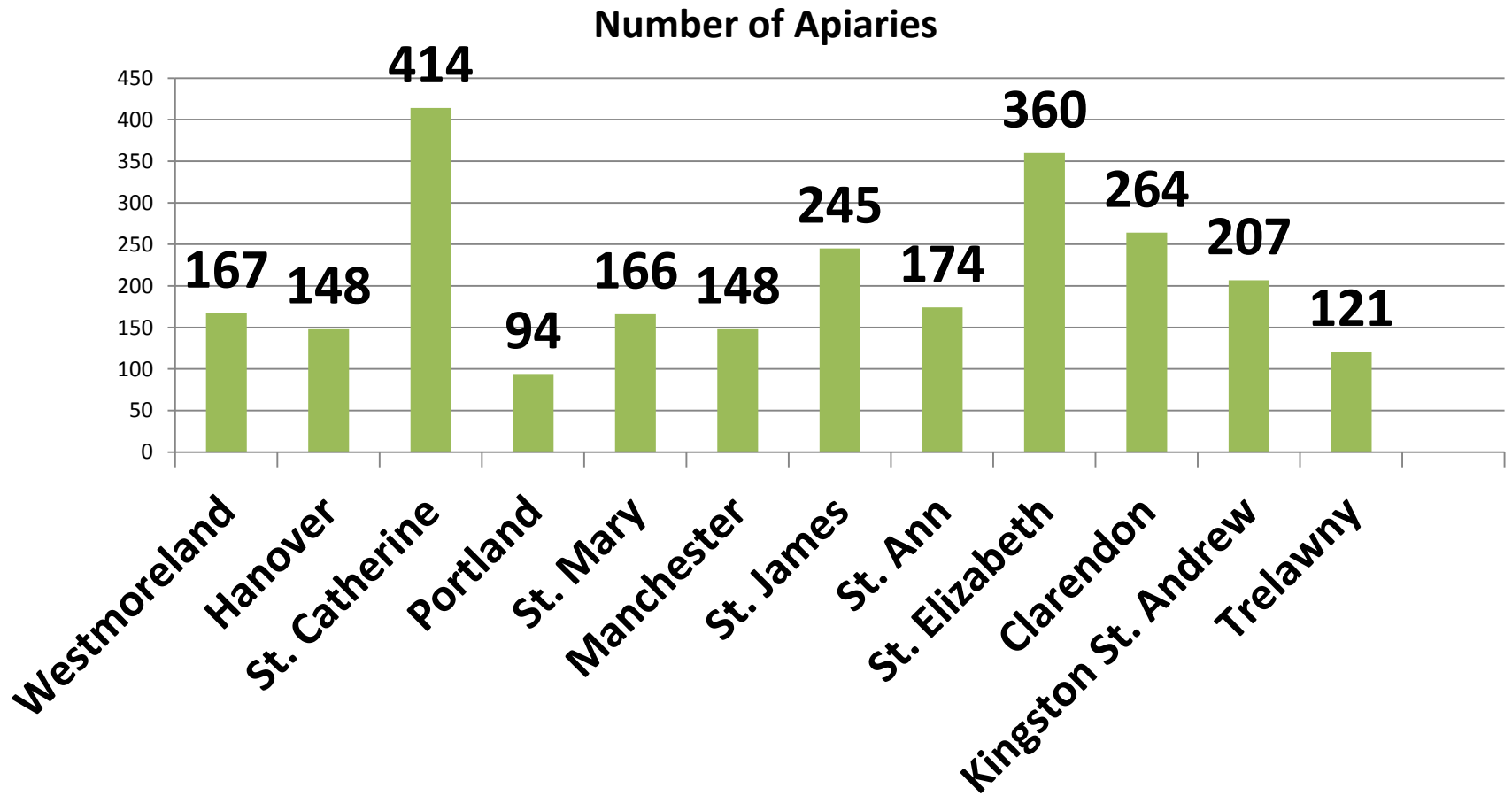
Figure 12. Annual distribution of the availability of the top six nectar sources.



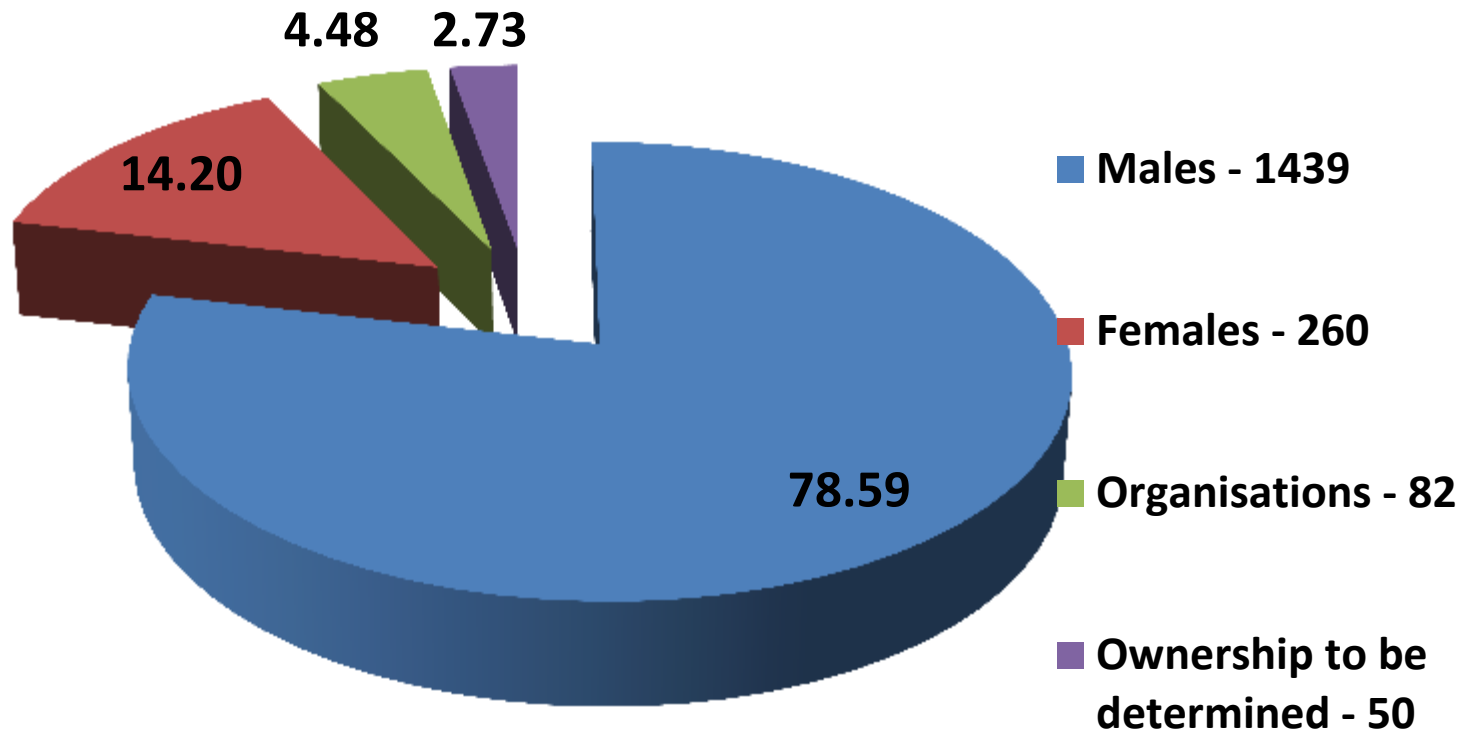
# Number of Beehives in Production 2005 - 2011



## Location of Apiaries in Jamaica (2011)



## Ownership of Apiaries (Gender) (%) in Jamaica





# Estimated Value of Bee Stock in Production

Bee Hives	Estimated No.	Estimated Unit Value	Estimated Values (\$)
Single	14,959	15,000	224,385,000
Double	17,053	20,000	341,060,000
Triple	8,001	28,000	224,028,000
Quadruple & others	1,361	32,000	43,552,000
	<b>41,374</b>		<b>833,025,000</b>

# Industry estimates

- Bee Stock \$0.9b
- Earnings \$0.7b
- Other equipment, facilities and Motor vehicle \$0.4b
- Total \$2.0b
- Pollination impact X 15 – 20 times  
app \$12b
- An estimated 12,000 persons depend on  
beekeeping to a great extent for their livelihood

# Honey Bee – Pollination



# Pumpkin Flowers



# Honey Bee Pollinating Pumpkin





# Pumkins



# Advantages of production in Jamaica

- It does not require **large acreages** to establish an apiary
- It is **not labour** intensive
- Other activities can run concurrently with moderate operations
- Most activities in the apiary are timely
- The **returns** on investment can be significant (though heavily dependent on the level of management)
- Bees do not **compete** with man nor other animals for food
- That which is gathered and converted by the bees for the use of man could not otherwise be economically harnessed.
- **Majority of** nectar **is from uncultivated crops**

## Some Challenges of Production in Jamaica

- Requires large **financial** investment
- **Stings** encountered by the exposure to bees
- **Pest** problems along with **pesticide** applications?
- Production is highly influenced by **environmental changes** (Hurricane, extended drought, rainfall)



# Some Industry challenges

- Bee Pest
- Climate Change
- Human intervention some includes:
  - Mosquito control programme
  - Pest management (especially crop care)

# Preparation for the Burning AFB Infected Beehives



# Other Bee Pest

- **Varroa mite**
- Small Hive Beetle
- Wax Moth
- Termites
- Chalk Brood
- Red Ants / Black Ants

# Areas Collaboration Required

- Pesticide Residues - Neonicotinoids
- Pest control strategies – Radiation and Plant extracts
- Characterization of local honeybee stock
- Characterization of local honey – pollen analysis
- Analysis of hive products – local propolis and imported hive products

# Registered Pesticide for use in Jamaica

## Apiguard<sup>®</sup>TM and Apistan<sup>®</sup>TM



## The Honey Launderers:

- Uncovering the Largest Food Fraud in U.S. History
- In September 2010, though, the junior executives were formally accused of helping ALW perpetuate a sprawling **\$80 million food fraud**, the largest in U.S. history.



# THE HONEY TRAP

ALW was based in Germany

Fake documents helped the honey through U.S. customs

Their offices in China used independent brokers to procure honey

Fifty-gallon drums of Chinese honey were shipped to India, Malaysia, Indonesia, South Korea, Russia, Mongolia, Thailand, Taiwan, and the Philippines, where they were relabeled and often filtered to remove traces of their origin

Honey from China is subject to tariffs that can triple its cost—higher than the tariffs imposed on any other country

If one U.S. processor rejected the honey, ALW would find another buyer

GRAPHIC BY BLOOMBERG BUSINESSWEEK; DATA: COMPILED BY BLOOMBERG

THANKS