



American Spice Trade Association

# Capsicum Crop Report

AVT McCORMICK  
INGREDIENTS PVT. LTD.



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India

2010 Annual Meeting and Exhibits  
Naples, Florida

# Outline

- Capsicum: Facts & Figures
- Issues Impacting
  - Supply
  - Price
- Food Safety Concerns
- Crop Overview 2009-10
  - Area, Quantity
  - 4 year supply demand
- Conclusion





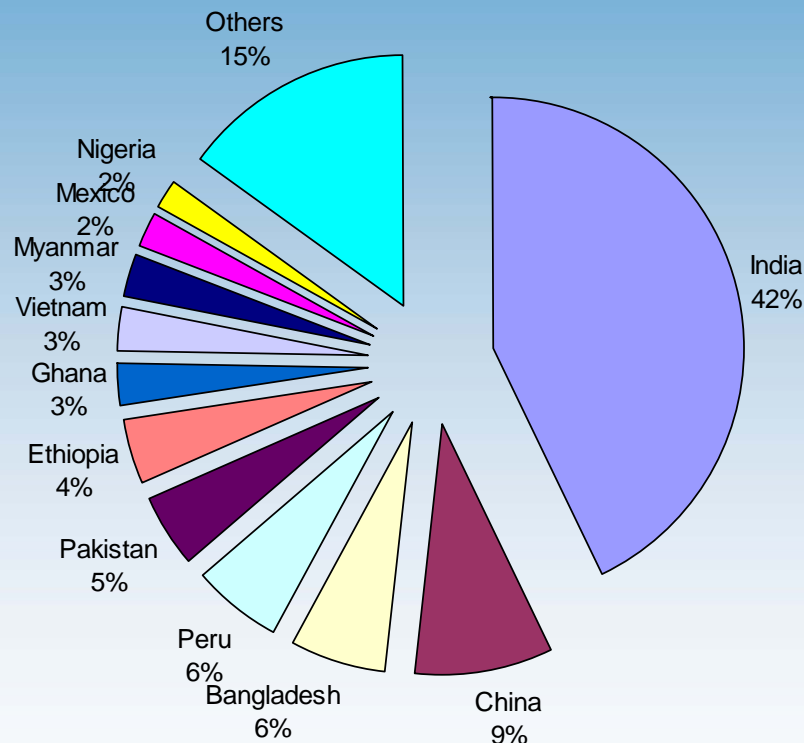
# Market Segments

- Clear Segmentation in terms of usage
  - India the most viable source for heat & deep red color
  - China for both low & high heat, but specifically for bright orange color & an acidic taste
    - Traditionally preferred in Japan for low incidence of aflatoxin
    - Changing weather patterns lead to inconsistency in supplies
  - Mexico specific flavor profiles for Jalapeños, Anchos, Guijillo, Chipotle etc.
  - South Africa becoming the only source for “birds’ eye chillies
  - Peru & China new alternatives for high color paprika
  - Bangladesh, Pakistan (dundicuts & cayenne) now net importers of chillies

# Chilly – World Average Production

Country	Production (MT)	Area (Ha)
India	1200000	809000
China	250000	40000
Bangladesh	170000	150000
Peru	160000	21500
Pakistan	130000	66000
Ethiopia	120000	290000
Ghana	80000	12500
Vietnam	78000	51000
Myanmar	75000	109000
Mexico	65000	37000
Nigeria	50000	31200
Others	421000	249650
<b>Total</b>	<b>2,799,000</b>	<b>1,866,850</b>

*India leads!*





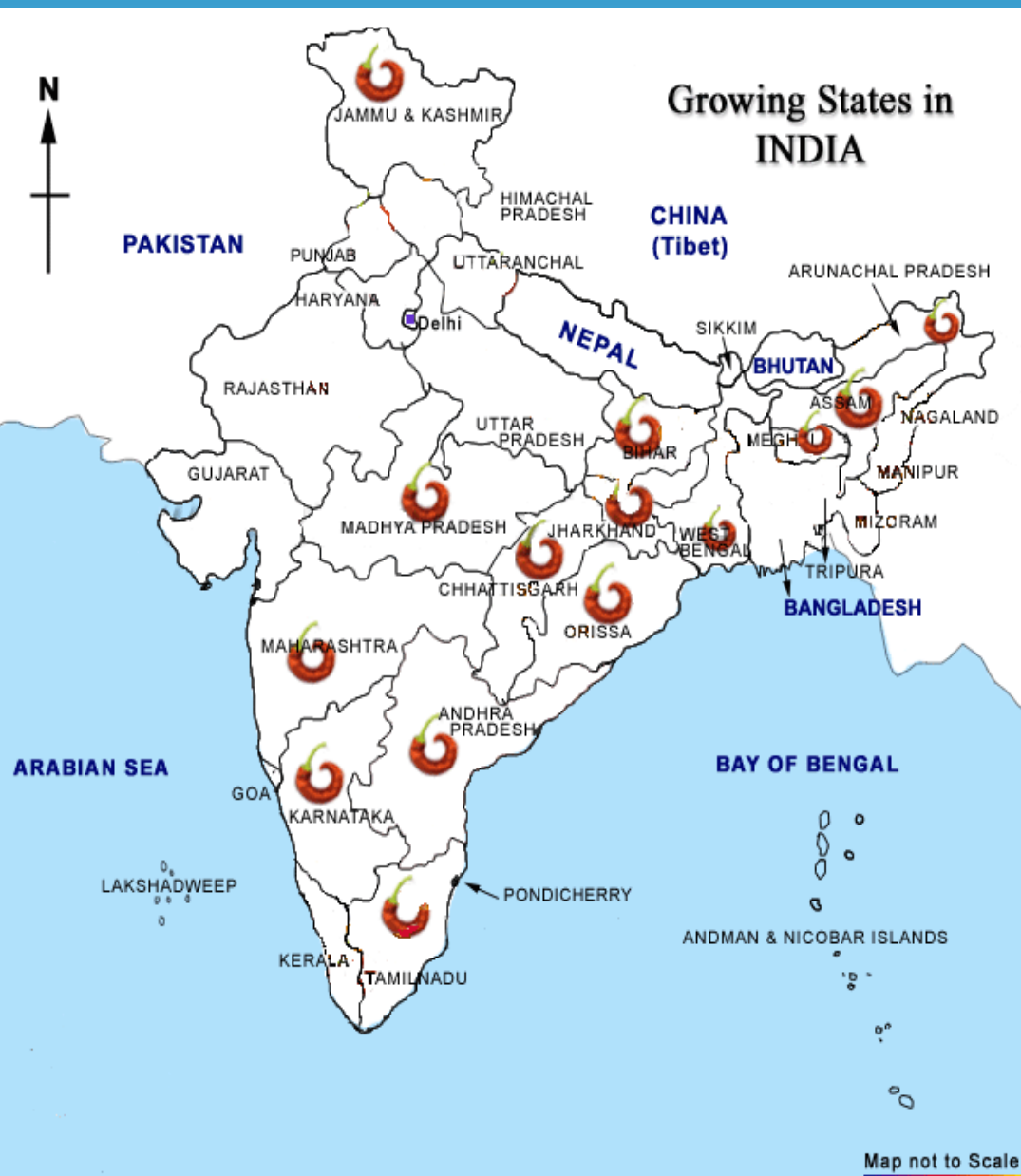


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# The land of 1.2million tons of Chillies



## Traditional Growing areas

- Andhra Pradesh: Guntur, Prakasam, Krishna
- Karnataka: Bydagi
- Maharashtra: Nagpur - increase in production by about 20% (2009: 45 - 50000 MT)
- Madhya Pradesh: Indore - increase in production in Bedia & Dhamnood markets by about 15 (2009: 50- 55000 MT)
- Tamil Nadu: Sankaran Koil & Virudhunagar

## New areas

- Karnataka: Bellary, Raichur, Gulbarga
- Andhra Pradesh: Khammam, Warangal, Bhadrachalam
- Orissa : Increase in production by 10% last year. (60000 to 65000 MT)
- North East :Quantity not known

# India State Wise Production 2009



Major States	Qty (‘000 MT)	% Share
Andhra Pradesh	672	58%
Karnataka	145	12%
Orissa	64	5%
West Bengal	50	4%
Madhya Pradesh	55	5%
Maharashtra	51	4%
Gujarat	42	4%
Tamil Nadu	43	4%
Other States	45	4%
Total	1167	100%



# Production Figures 2005-09

Year	Acreage ('000 Ha)	Volume ('000 Tons)	Productivity (Kg/Ha)
2005	737	1185	1544
2006	654	1014	1550
2007	737	1242	1685
2008	805	1297	1611
2009	750	1167	1550

- **US941:** Recently introduced medium heat variety. **High yield & better color** in comparison to its predecessor US 341
- **Garuda:** Improved variety of Devannur Delux. **High yield, better tolerance to pests & diseases** in comparison to DD
- **NM 208 & NM 1701:** Newly introduced upper medium heat range variety. **High yield** in comparison to Goli & Namdhari
- **SHP 4884** - High yielding high heat variety that is **easy to harvest** in comparison to traditional Teja

***Indian S4 variety being replaced hybrids. The hybrids' share at about 55 to 60% currently***

# Issues Impacting Supply

- General
  - Competing crops
  - Disease attacks & inconsistent weather
  - Improper Post Harvest handling
  - Storage availability
- For exports
  - Increasing food safety concerns & unrealistic regulations
  - Increase in both domestic & international consumption
  - Interchangeable usage of Chinese & Indian esp. Tianjin varieties

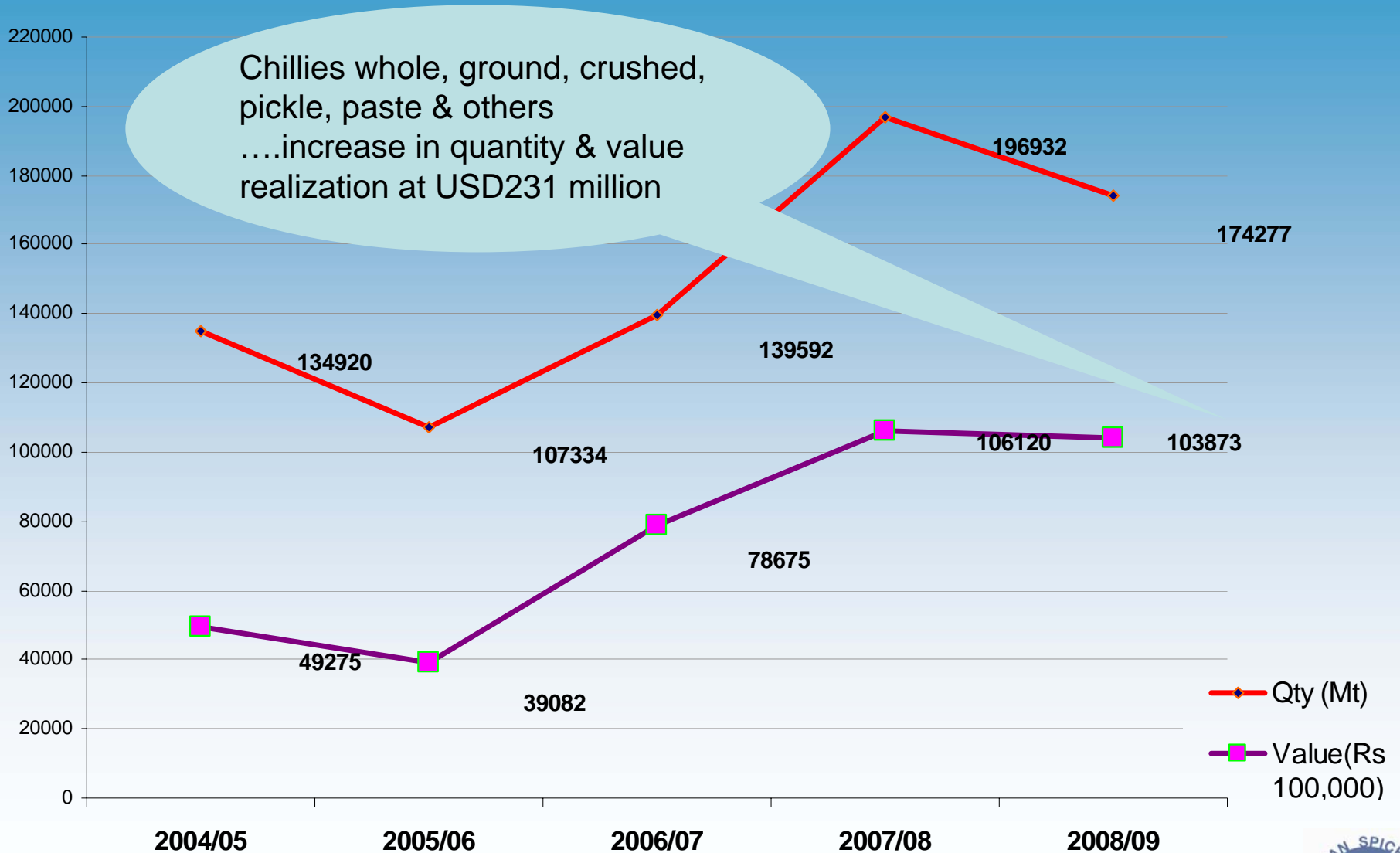
# Capsicum Exports From India: 5 year Statistics

Item	2004/05		2005/06		2006/07		2007/08		2008/09	
	Qty	Value Rs.	Qty	Value Rs.	Qty	Value Rs.	Qty	Value Rs.	Qty	Value Rs.
	(Mt)	100,000	(Mt)	100,000	(Mt)	100,000	(Mt)	100,000	(Mt)	100,000
Chilly Dry	107095	34798	76223	23987	113552	62769	161416	83996	135318	75600
Chilly Ground	21137	10529	24647	11454	20754	12277	28149	16785	30910	21369
Chilly Crushed	6688	3948	6364	3601	5083	3515	7185	5232	7938	6820
Chilly Paste			12	5	27	15	66	40	19	6
Chilly Pickle			16	9	85	59	47	37	19	32
Chilly Others			72	26	91	40	69	29	73	45
<b>Total</b>	<b>134920</b>	<b>49275</b>	<b>107335</b>	<b>39082</b>	<b>139591</b>	<b>78675</b>	<b>196932</b>	<b>106120</b>	<b>174276</b>	<b>103873</b>

Value realization in 5 years have moved from Rs36.50/kg to Rs59.60/kg



# Indian Capsicum Export Statistics

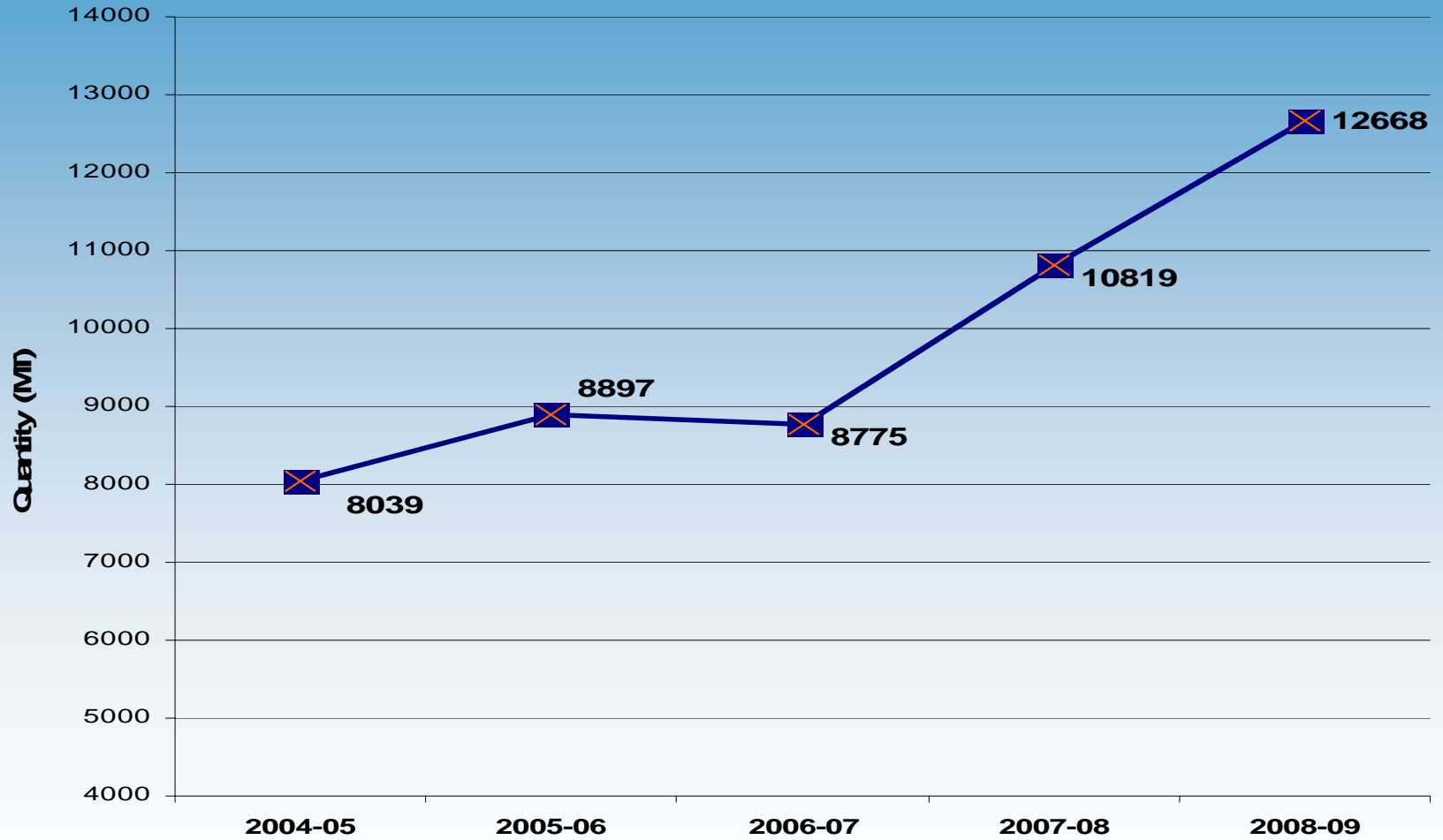




# Direction of Indian Capsicum Export

<b><i>Country</i></b>	<b><i>05-06 (mts)</i></b>	<b><i>06-07 (mts)</i></b>	<b><i>07-08 (mts)</i></b>
Bangladesh	604	28,400	34,680
China	490	673	1500
Malaysia	26,380	43,080	51,350
Pakistan	nil	nil	9900
Sri Lanka	27,500	21,750	29,300
USA	24,474	25,212	25,012
EU	6248	4913	5600

# Growth in curry exports



# 4 Year Balance Sheet

Quantity '000 Tons	2006	2007	2008	2009
C/F Stock	100	0	30	20
Production	680	1100	950	1000
Supply	780	1100	970	1020
Domestic	632	871	762	830
Export	148	209	188	160
Surplus	0	30	20	30

*Increased Export during last three years & unfavorable weather conditions during harvest period has kept the surplus at low levels*

# Issues Impacting Price

- High(er) costs of cultivation
  - Unavailability or costlier of labor due to NREP (National Rural Employment Program)
- Domestic factors: Increase in awareness of food safety, value addition & consumption
- Loss due to poor post harvest handling
- Development of more Cold storage facilities
- Commodity Exchange, speculators & e-commerce

# Average Cultivation Costs (INR per acre)

- 25% increase in overall Production Costs
  - Limited availability of labor and doubling of wages
  - Land lease rates rising due to infrastructure development
  - Increase in fuel prices impacting logistics cost
  - Usage of safe but expensive agro chemicals
- *At an average of 2mts yield per acre, USD\$1= Rs44/, the farm gate price is USD\$0.40/lb*

Land lease value	16000	21%
Land Preparation	3000	4%
Seeds, Treatment, Nursery etc	4000	5%
Transplanting, Weeding & Interplanting	8000	10%
Fertilizers, pesticides, growth promoters	26000	34%
Irrigation	5000	6%
Harvesting & post harvest handling	15000	19%
Total Cultivation cost per acre	77000	



# Food Safety Concerns

- Capsicums considered “high risk” category
- Typical contaminants extraneous matter, filth, insect frags, illegal dyes from cross contamination
- Aflatoxin, Agri chemicals, Heavy metals levels
  - Better agricultural practices, post harvest handling, storage
- New EU legislation of OTA & Non-POAO
- *Technology is our biggest challenge!*

# Contaminants at farm level

- Cross Contamination from nearby fields
- Improper washing of spray equipment
- Indiscriminate use of inorganic fertilizers & synthetic pyrethroids
- Use of “doctored” growth promoters & not so safe chemicals
- Recycled old jute bags

# New Farming Techniques

- Crop rotation with French beans, cereals and intercropping with marigold
- Use of Onion & Garlic to reduce Nematodes
- Certified seeds of resistant/tolerant varieties
- Maintaining Border Crops like Maize, Sorghum that restrict the immigrant insects
  - provides habitat for build up of the natural predator's fauna.

# New Farming Techniques

- Soil solarization using transparent polythene sheets on nursery beds to help kill weed seeds, nematodes and resting stages of insects.
- Pheromone traps and light traps to monitor adult moth density of *Helicoverpa* and *Spodoptera*.
- Poison bating - Mixing rice bran, pesticide and molasses and placing it near the plant base during evening hours to attract larvae of borers

# New Farming Techniques

- Harvesting at right time, when the pods are well ripened
- ***Differential harvesting***
- ***Use of clean vessels & new gunny bags while transporting***
- Harvested pods kept in heaps, either indoors or in shade, away from direct sunlight for one day, so as to develop uniform red color
- ***Pods dried under sun by spreading them out on clean, dry mats or concreted surfaces***



# Post Harvest Handling

- Preparation of proper drying yards or use of tarpaulins
- Regular turning of pods during noon hour
- Pathways in drying yards to avoid physical damage to pods
- Material kept in a heap & loosely covered by clean gunny bags or tarpaulin at night
- Selection of drying yard away from the road and water sources
- Packing done during early morning hours at 10 – 12%moisture.

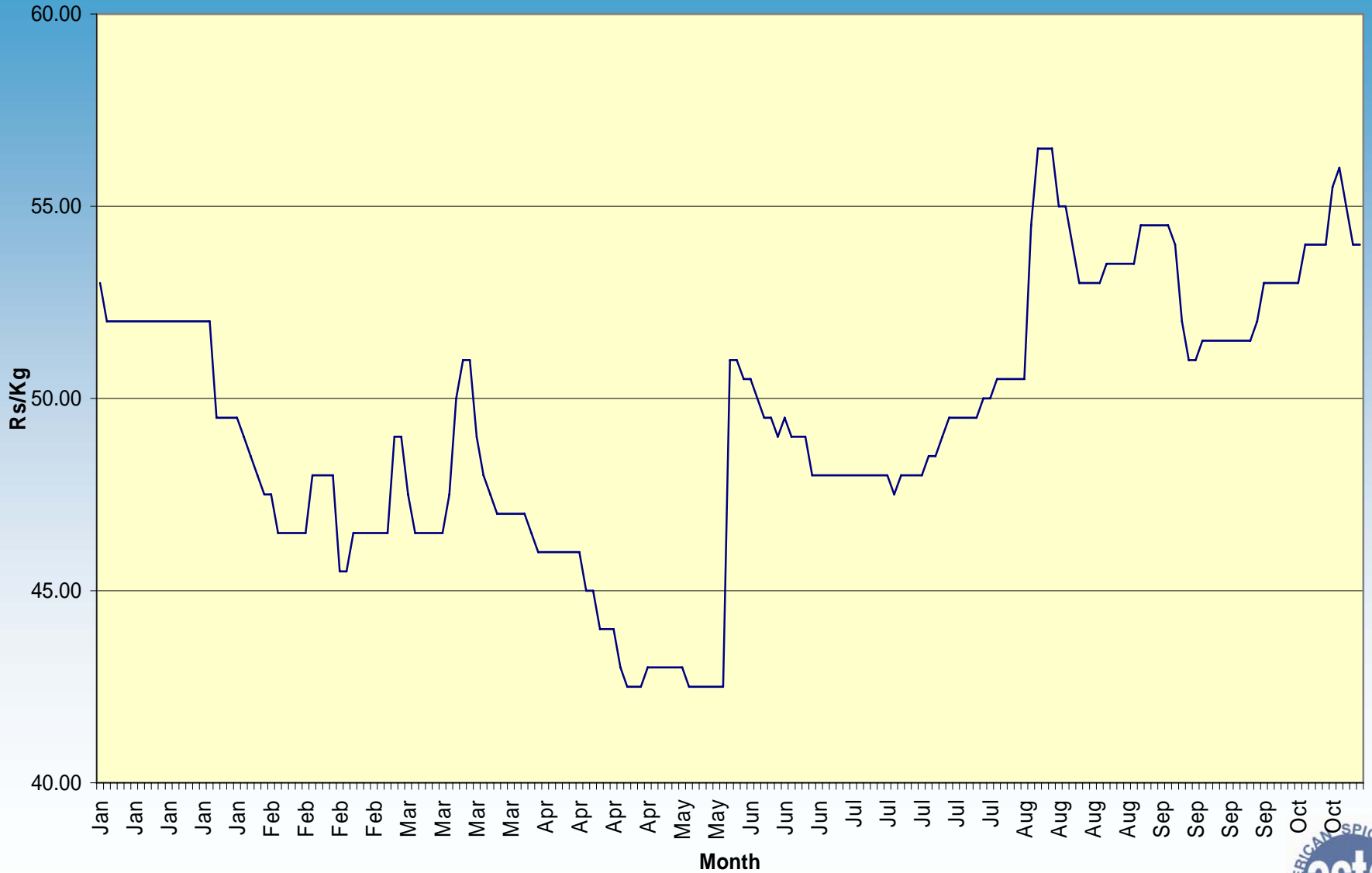
# Chillies : The Indian Panorama







## 2009 Average farmgate price trend for 334 chillies









# Issues Impacting Price

- Increasing international demand
  - Food Safety, Quantity & Quality
  - Costs of increased testing
  - Farm to Fork traceability
- Freight (ocean) rates increase
- Strong rupee, weak dollar
- *The net impact on export price is significant!*

# Forex: US\$\$ Vs. INR

- India rupee is at a 19-month high on buoyant shares and FDI inflows
- Foreign capital into local stock markets is a key driver of the rupee.
- The rupee had risen 2.7 percent in March, its biggest monthly gain since May last year on the back of foreign portfolio inflows.
- Analysts and traders expect the Indian currency to strengthen further in the current fiscal year that began on April 1.

# Forex: US\$\$ Vs. INR



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# Factors that limit growth of the industry

- Unreasonable Food safety expectations
  - More \$\$\$ spend on tests than the product
- Unrealistic price expectations
  - Farmer has alternate markets!
- “Price Pressure” encouraging another  
May 2003 Illegal dye episode!

# Conclusion

- India remains the most viable & consistent source of “heat” until October-November
- Capsicum will continue to remain a difficult product to manage supply, price & quality wise
- No ease foreseen in the capsicum prices
  - Red Pepper prices will remain steady
  - Cold storage facilities only half full
  - Equally important final price determinants will be Forex & Freight

# Conclusion

- Quality is not a given!
  - Better the quality, higher the price
  - Price differential between good & not so good marginal
  - But price differential between good & bad significant..
- ***Err on the side of caution, please!***



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**Thank you**

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