

# Industry Perspectives on the 2005 American Ginseng Findings

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## Concerns & (Ideas for) Solutions

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### **U.S. Fish & Wildlife**

Public Meeting on American Ginseng

January 31, 2006

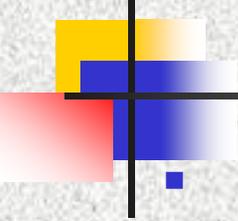
Michael McGuffin

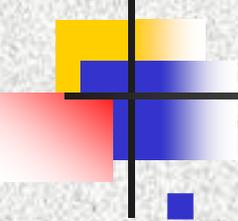
American Herbal Products Association

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# American Ginseng Timeline

...a selective list of highlights...

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- 1716 – Jesuit in Canada notes similarity of American ginseng to the Asian species
  - 1870s-80s – First cultivation of American ginseng
  - 1975 – *Panax quinquefolius* listed on CITES Appendix II
  - 8/1/99 – Harvest season opens in PA
  - 8/2/99 – New 5-year rule announced by FWS
  - 8/1/05 – Harvest season opens in PA
  - 8/3/05 – New 10-year rule announced by FWS
  - 8/4/05 – AHPA Requests meeting with FWS
  - 8/25/05 – Ginseng meeting in Louisville
  - 8/25/05 – AHPA requests copies of all '05 Findings references
  - 1/20/06 – AHPA receives 23 of the 59 references

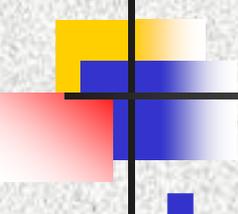


# 2005 American Ginseng Findings

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## ■ Letter of 8/3/2005, DSA to DMA

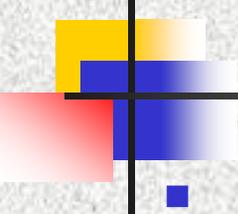
- Basis for Advice (27 points)
- Future Actions
- Table of current state regulations and Distribution Map
- Literature Cited (37 references)
  - “Ginseng roots harvested in 2005 and certified by the [19] states as wild may be exported provided that the roots are from plants 10 years of age (4-leafed) or older.”
  - “The export of wild-simulated and woodsgrown ginseng that is younger than 10 years of age, which is treated as wild for CITES export purposes, may be authorized on a case-by-case basis if applicants are able to document the origin [of their planting stock].



# 2005 American Ginseng Findings

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- **Annex 1 - American Ginseng: Species Review** (Prepared by Pat Ford (DSA))
  - Distribution, reproductive biology, ecology (20 points)
  - Genetics (4)
  - Populations (20)
  - Impact of deer (4)
  - Impact of harvest (6)
  - Harvest trends (5)
  - Conservation status (11)
  - Illegal harvest (8)
- Several Tables and Distribution Map
- Literature Cited (57 references)



# 2005 American Ginseng Findings

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- **Problem identified: Basic Biology**

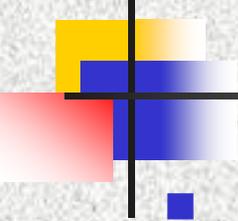
- Narrow ecological niche
- Few sites w/ > MVP
- Low reproduction potential (natural reproduction by seed only; no / few seeds w/ < 3 leaves; high seed / seedling mortality) [*\*but modified by human intervention*]
- Vulnerable to Allee effect (data from cultivated plants)
- Plants are getting smaller (?)

- **How addressed?**

- Increase export age to 10 years (9 scars)

- **Other options:**

- Increase export age to 7 years; or 8 years; or...
- Strategies to maximize seed planting (@ 2 cm (¾ in))



# 2005 American Ginseng Findings

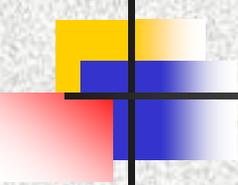
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- **Other problems identified:**

- Harvest dates before September 1 in 7 states
- Impact of deer browse
- Poaching on public lands
- Genetic concerns related to import of cultivated-source seeds and low population sizes

- **How addressed?**

- No solutions were proposed for these issues in the 2005 findings

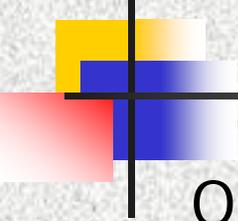


# 2005 American Ginseng Findings

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## ■ **Problems NOT identified:**

- Loss / disruption of habitat
  - Strip-mining and mountain-top removal
  - Logging
  - Conversion to agriculture
  - Golf courses, strip malls, and housing developments
  - Roads (and related weed abatement)
- Exclusion of the regulated industry from meaningful participation in rulemaking

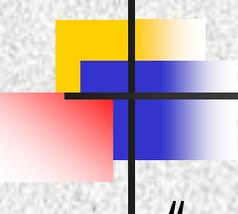


# Some notes on the 2005 Findings

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One identified reference: Lockard and Swanson, 1998. *A Digger's Guide to Medicinal Plants*.

- Only one reference to this text: "An individual whorled leaf with a petiole is referred to as a 'prong,' and is commonly used to indicate size-class or age of individual ginseng plants (Lewis and Zenger 1982; Charron and Gagnon 1991; Anderson et al 1993; Lockard and Swanson, 1998).
- Lockard and Swanson also state the following at their listing for ginseng: "Harvest only the older, more mature plants... those with three or more prongs... Leave the rest to mature. Always plant seeds back in shallow soil to ensure future plants for the patch."

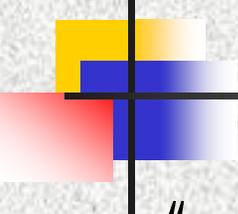


# Some notes on the 2005 Findings

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“...it is generally assumed that a digger will most likely harvest all of the largest plants (3- and 4-leafed plants), and may occasionally leave the smaller-sized plants” (Nantel et al. 1996; Gagnon 1999).

- What Nantel actually said (citing White 1988): “Diggers most likely collected roots only when seeds were ripe and planted on site the seeds of harvested plants, thus fostering recruitment. Large plants were dug out with care... [and] seedlings and juveniles were left for the next harvest because populations were revisited every 5-8 years.”

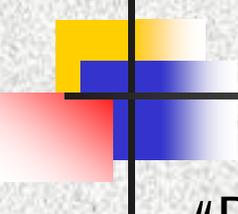


# Some notes on the 2005 Findings

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“...it is generally assumed that a digger will most likely harvest all of the largest plants (3- and 4-leafed plants), and may occasionally leave the smaller-sized plants” (Nantel et al. 1996; Gagnon 1999).

- What Gagnon actually said: “Usually, a harvester will harvest all plants (100%) of size-classes 4 and 3, and if he is conservation minded, will leave most size-class 2 plants and all smaller plants. He may even sow the seeds of the plants he has harvested.”

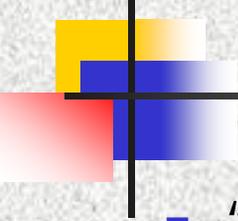


# Some notes on the 2005 Findings

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“Between 1991 and 2001, 11,654 pounds of illegally harvested ginseng root (an estimated 3,496,200 plants) were seized in the GSMNP alone.”

- In fact, the correct count is 11,654 **roots** (46½ pounds at 250 roots/pound)



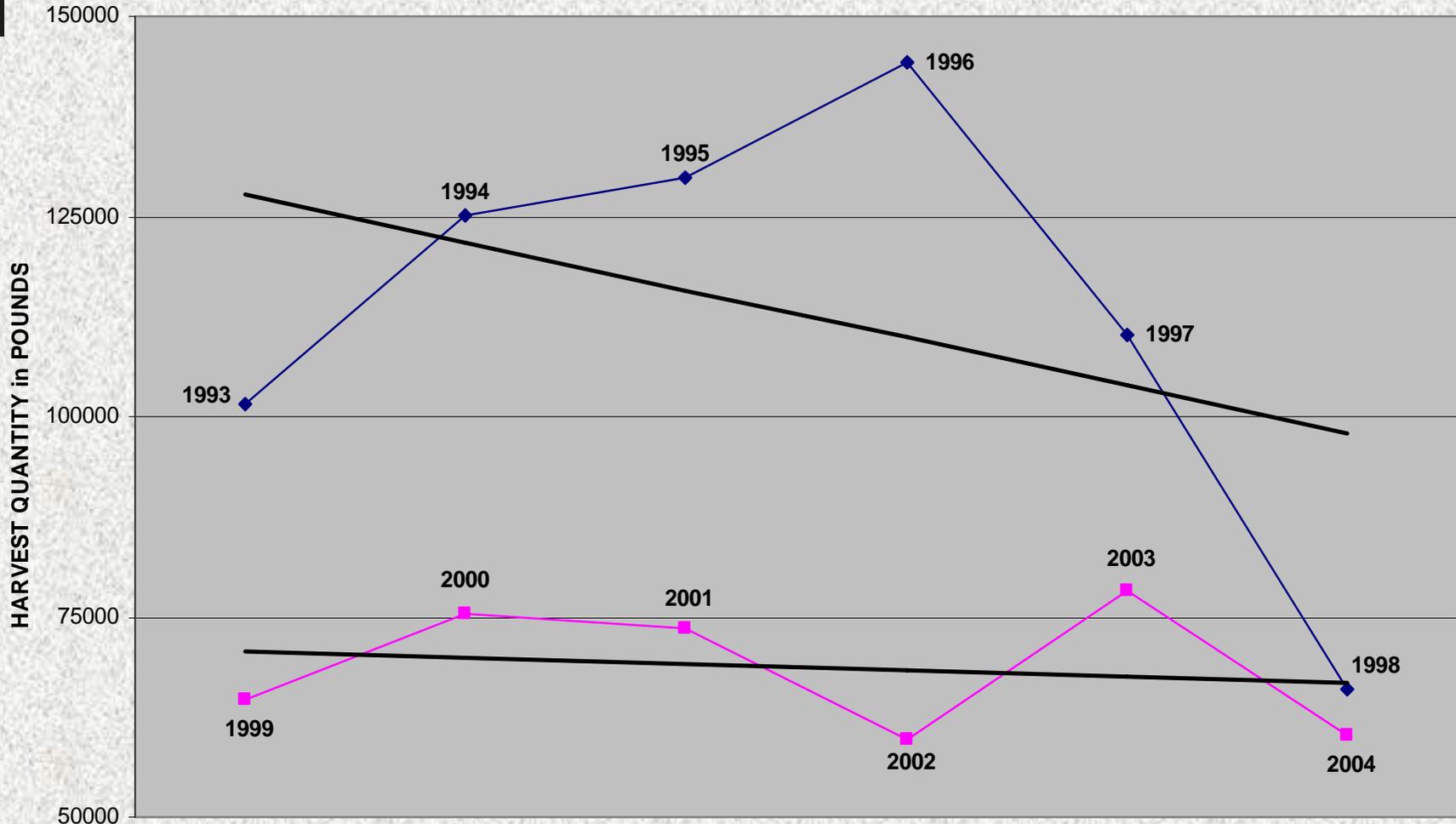
# Some notes on the 2005 Findings

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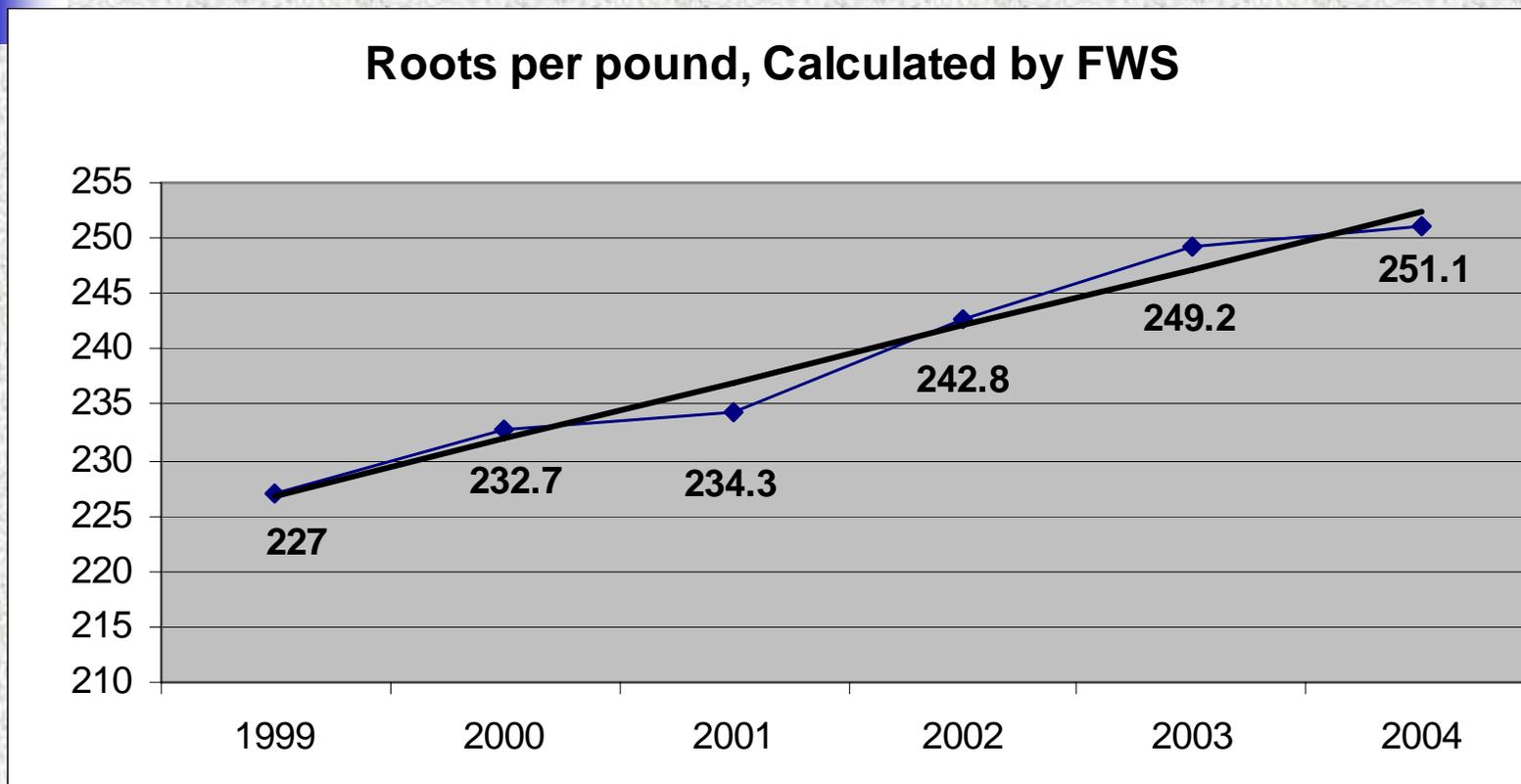
- “In 2003, the States reported that a total of 122,361 pounds (approximately 30,712,611 plants at 251 roots per pound) of wild ginseng was harvested.”
  - In fact, an arithmetic error was made in this calculation; the actual 2003 harvest was 78,361 pounds.
- “A review of State harvest data (submitted annually by States to the Service) shows that, since the 1999 implementation of a 5-year minimum-age limit on ginseng roots, the number of wild roots harvested has steadily increased. The data also indicate that there is growing trend in the harvest of smaller roots.”

# Annual Wild Ginseng Harvests

1993-1998 vs. 1999-2004



# Calculations: Roots/# 1999-2004



But calculations were made by dividing the sum of the roots per pound reported by each state by the number of states reporting; no consideration for proportion of each state's harvest.

**2002****2003**

	<b>Roots/#</b>	<b>#s</b>	<b>TOTAL roots</b>	<b>Roots/#</b>	<b>#s</b>	<b>TOTAL roots</b>
<b>AL</b>	249	457	113793	226	1025	231650
<b>AK</b>			0			0
<b>GA</b>	205	266	54530	218	426	92868
<b>IL</b>			0			0
<b>IN</b>	351	3192	1120392	323	6915	2233545
<b>IA</b>	109	798	86982	117	566	66222
<b>KY</b>	320	15085	4827200	314	22583	7091062
<b>MD</b>	287	110	31570	333	109	36297
<b>MN</b>			0			0
<b>MO</b>	211	2498	527078			0
<b>NY</b>	185	495	91575	162	708	114696
<b>NC</b>	352	8790	3094080	350	6548	2291800
<b>OH</b>	292	3059	893228	290	4557	1321530
<b>PA</b>	228	1730	394440			0
<b>TN</b>	340	5815	1977100	313	10826	3388538

## 2002

## 2003

	<b>Roots/#</b>	<b>#s</b>	<b>TOTAL roots</b>	<b>Roots/#</b>	<b>#s</b>	<b>TOTAL roots</b>
<b>VT</b>	155	184	28520	149	116	17284
<b>VA</b>	213	3810	811530	240	4884	1172160
<b>WV</b>	232	5207	1208024	276	7175	1980300
<b>WI</b>	156	258 1	402636	178	1690	300820
<b>Totals:</b>						
	<b>3885</b>	<b>54077</b>	<b>15662678</b>	<b>3489</b>	<b>68128</b>	<b>20338772</b>

### **AVERAGE Roots/#**

FWS Average:

**242.8**

(3885 / 16 states)

**249.2**

(3489 / 14 states)

Actual Average:

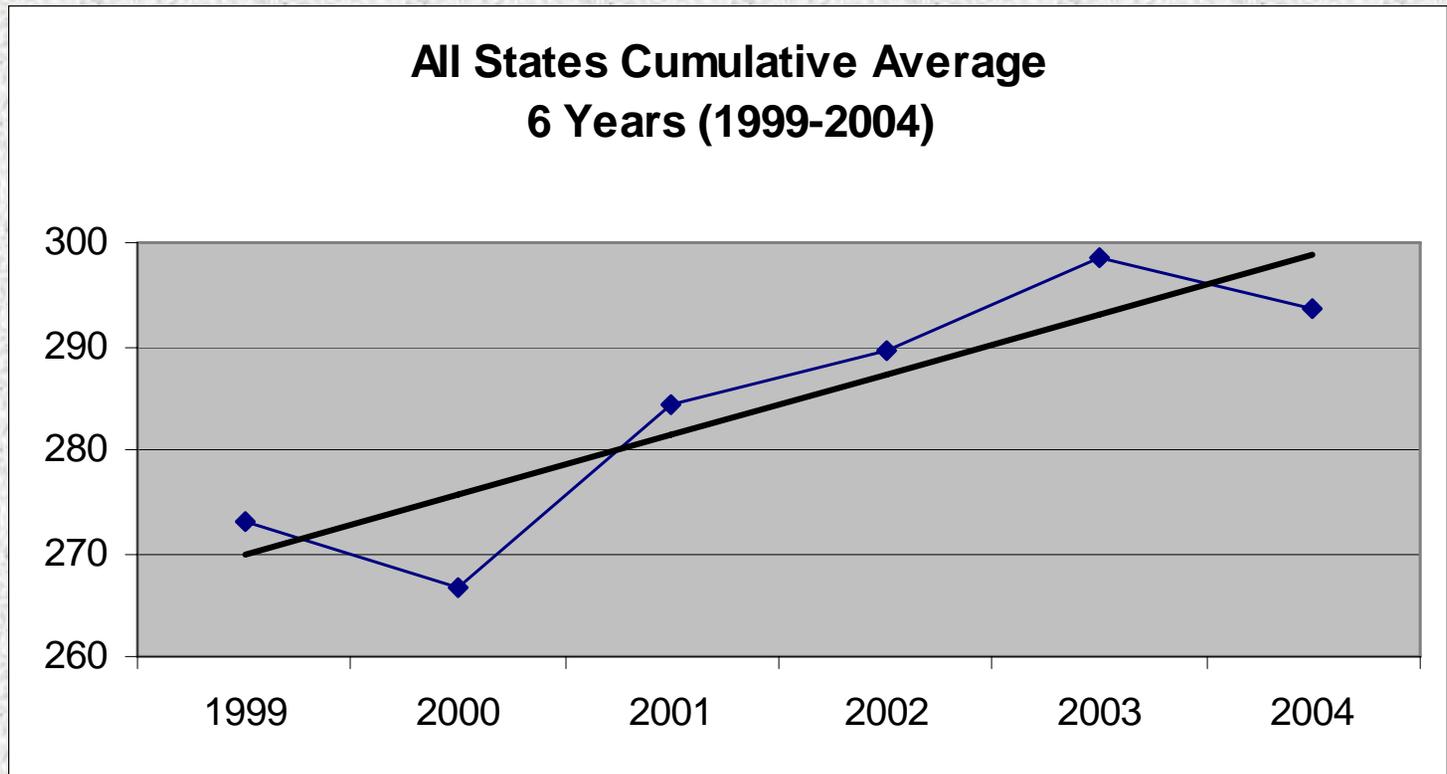
**289.6**

(156662678 roots / 54077#)

**298.5**

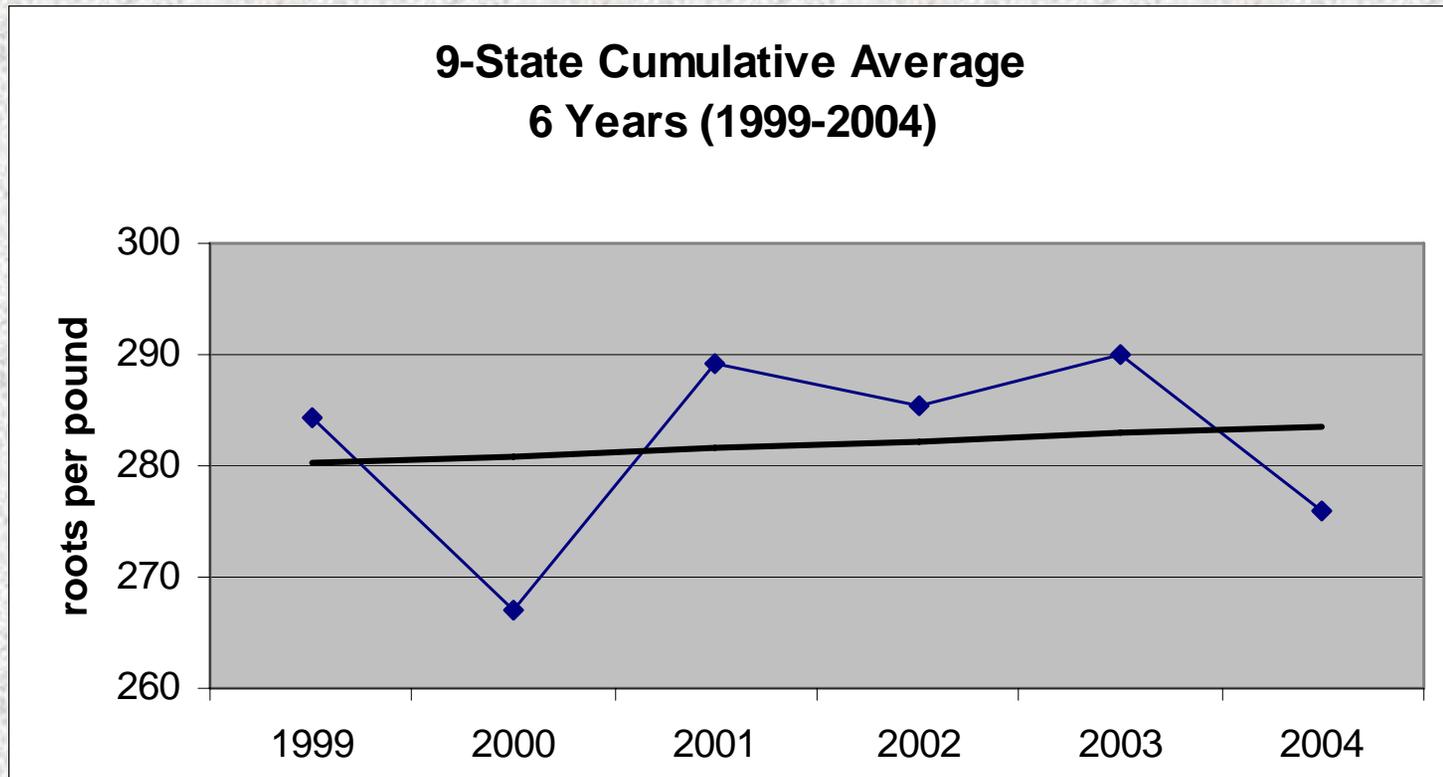
(20336772 roots / 68128#)

# Calculations: Roots/# 1999-2004



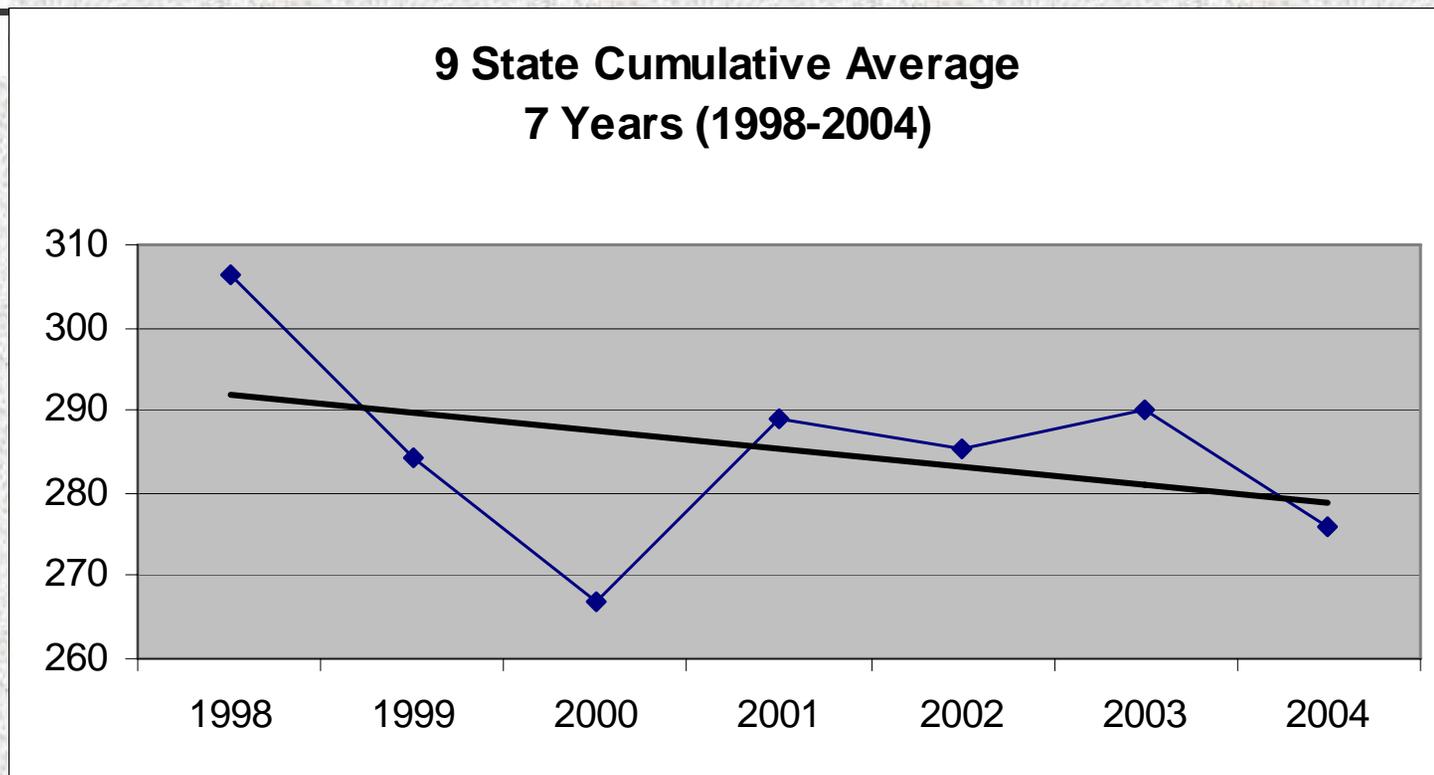
Apparent increase in number of roots per pound (smaller roots) when reports for all states are considered for each of the 6 years since “5-year rule.”

# Calculations: Roots/# 1999-2004

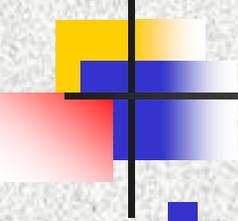


Slight trend toward increase in roots per pound (smaller roots) when only the data from the 9 states that reported in **all** of the last 6 years are considered.

# Calculations: Roots/# 1998-2004



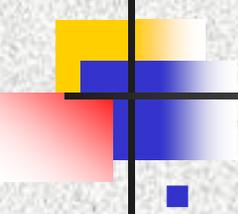
When 1998 is also considered the trend is actually toward fewer plants per pound (larger roots); shown here in the 9 states that reported in **all** of the last 7 years; also true for “all states” in the past 7 years.



# Looking for Solutions

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- Harvest dates before September 1
- Impact of deer browse
- Poaching
- Genetic concerns re: cultivated seeds
- Loss of habitat
- Exclusion of the regulated industry



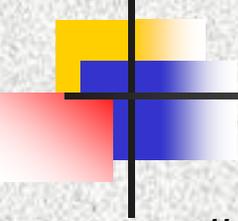
# Other Issues & Ideas

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- Data needed on “denominator”
- Value of responsible / informed harvesters
- Value of regional seed banks and nurseries
- Definitions / policies for woodsgrown and wild-simulated ginseng
- Aging criteria other than stem scars
- Collection criteria other than age
- Rhizomes as potential reproductive resource
- Inclusiveness of decision-making process

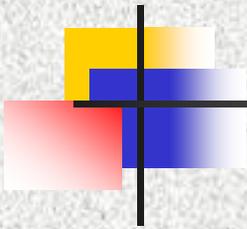
# from *The Ginseng Book*

Louise Veninga, 1973



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“As you hunt wild ginseng always remember that the final step is to collect the seed...plant the wild berries...in some good, rich, shaded soil...This practice...is an old tradition, dating back to the early pioneers...”



# Thank you!

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