

# **New Jersey and Deer: Perfect Together?**

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## Annual estimates

- **> \$2 billion nationwide**
  - \$1 billion in car damages
  - > \$100 million in agricultural crop damage
  - \$750 million in damage to the timber industry
  - > \$250 million in damage to metropolitan households (e.g., landscape plantings).

Paul D. Curtis and Kristi L. Sullivan

Annual economic loss to high-value agricultural crops in the northeast: \$94.4 million

State	Economic Loss
Connecticut	\$136,934
Delaware	\$375,966
Maine	\$138,813
Maryland	\$11,464,000
Massachusetts	\$329,454
New Hampshire	\$114,287

State	Economic Loss
<b>New Jersey</b>	<b>\$15,155,270</b>
New York	\$48,205,006
Pennsylvania	\$17,506,294
Rhode Island	\$27,450
Vermont	\$105,523
Virginia	\$580,100

***1997 NJAES survey of 1,837 farmers reporting >\$10,000 in annual sales...***

- **deer responsible for 70% of wildlife-caused crop losses**
- **39% of respondents reported intolerable losses**
- **25% of responding farmers reported abandoning a tillable parcel due to deer damage**
- **farmers experience a loss of \$29-\$51 per crop-acre\***
  - **\*no information provided on type of cultivated crops**

## Reproductive control in wildlife: Is it a viable management tool?

- **Species**
- **Environment**
- **Methodology**
- **Economics**
- **Ethics**

## Reproductive control in wildlife: Is it a viable management tool for deer?

- **Species**
    - Reproduction control vs Lethal control
- Population model:
- juvenile survival rate
  - age at first reproduction
  - adult survival rate

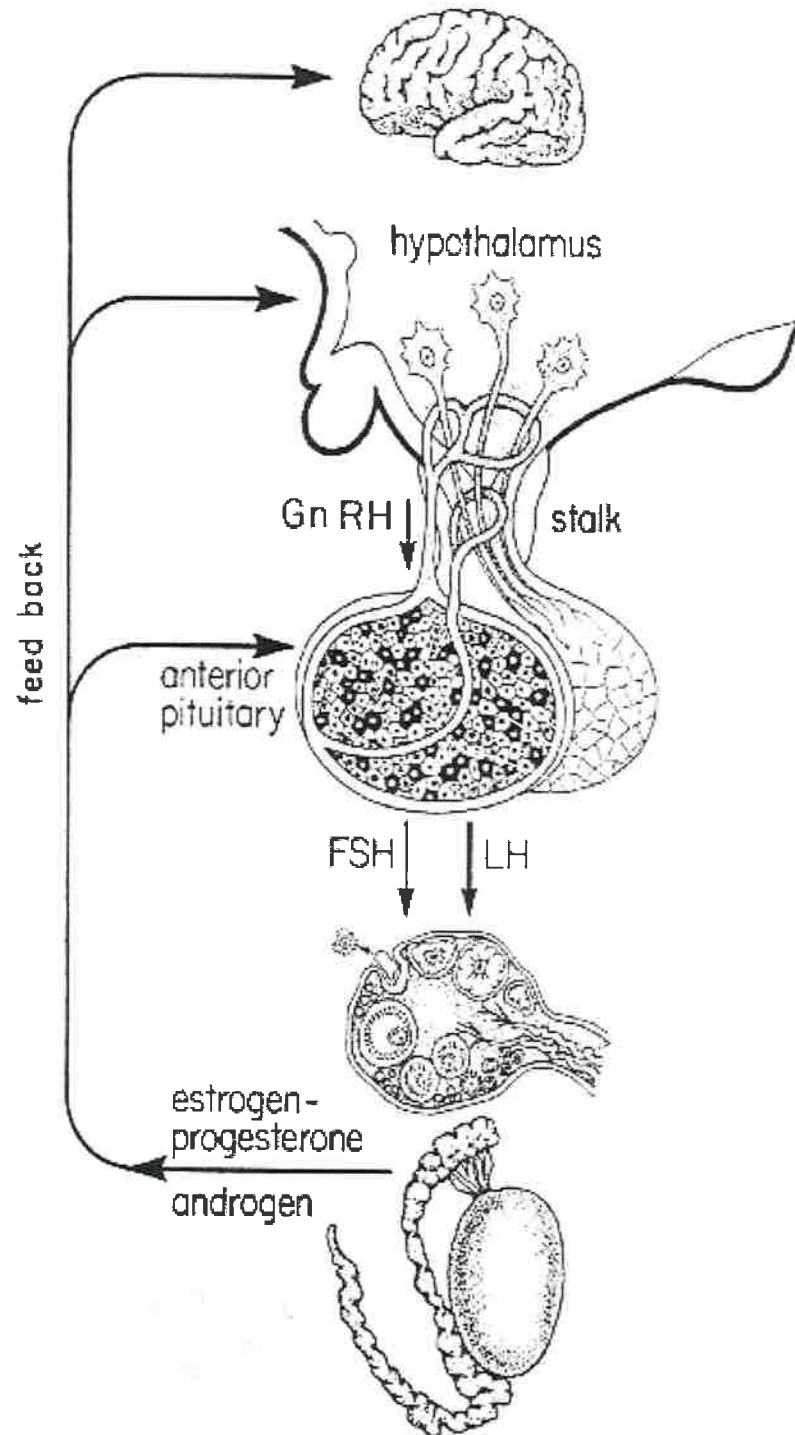
## Reproductive control in wildlife: Is it a viable management tool for deer?

- **Environment**
  - Size and topography/complexity of selected site
  - Animal numbers
  - Access to the land

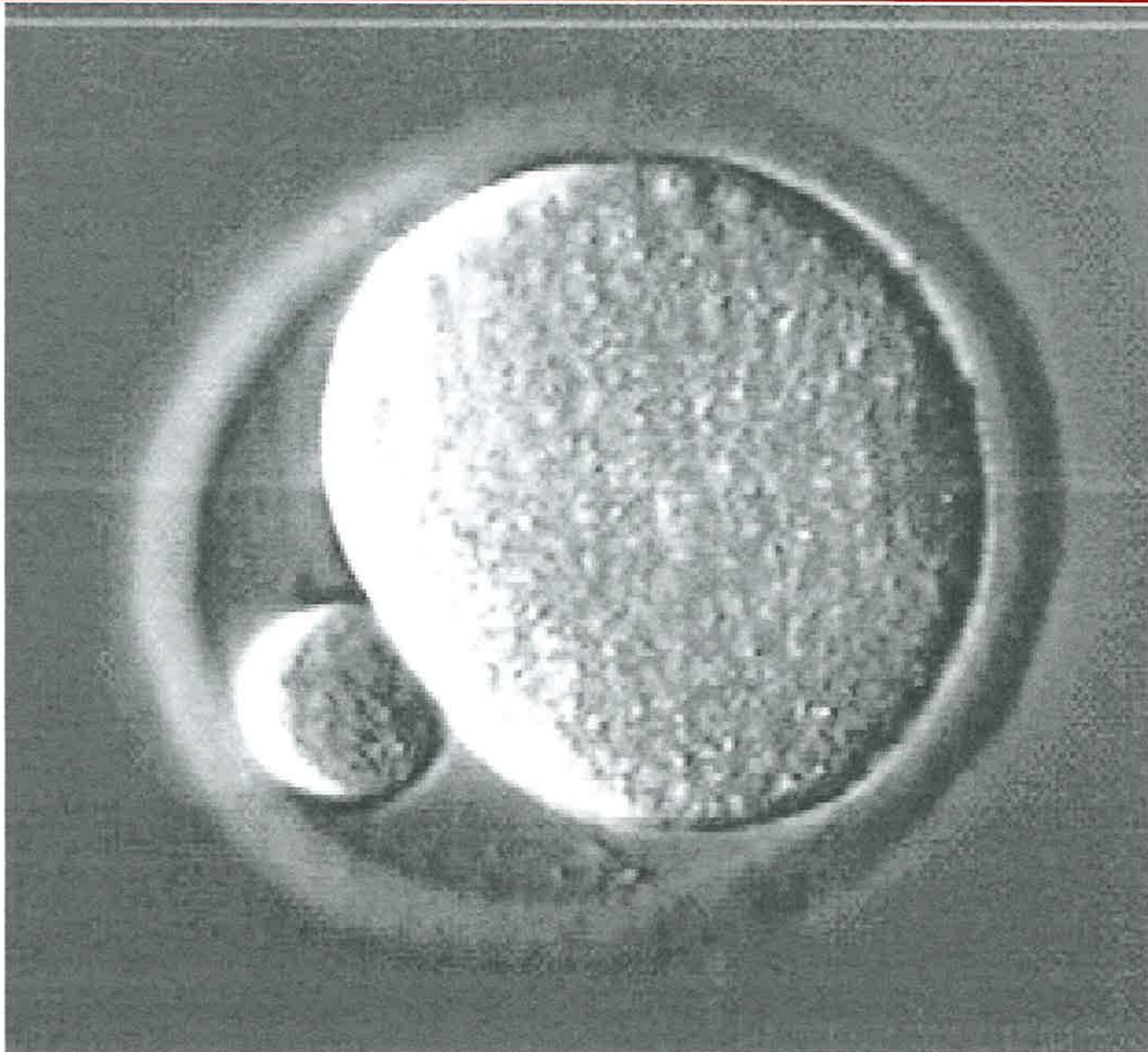


Reproductive control in wildlife: Is it a viable management tool for deer?

- **Methodology?**



- **Surgical**
  - gonadectomy, vasectomy
- **Hormones**
  - prevent ovulation, suppress sexual behavior, terminate pregnancy
- **Immunocontraception**
  - zona pellucida, GnRH, sperm surface proteins





## Reproductive control in wildlife: Is it a viable management tool for deer?

- **Methodology**
  - Efficacy
  - Reversibility
  - Delivery system
  - Time to desired effect

- **Efficacy of immunocontraception**
  - Immunogenicity of vaccine
  - Genetic background of animal
  - Age
  - Health and nutritional status
  - Stress

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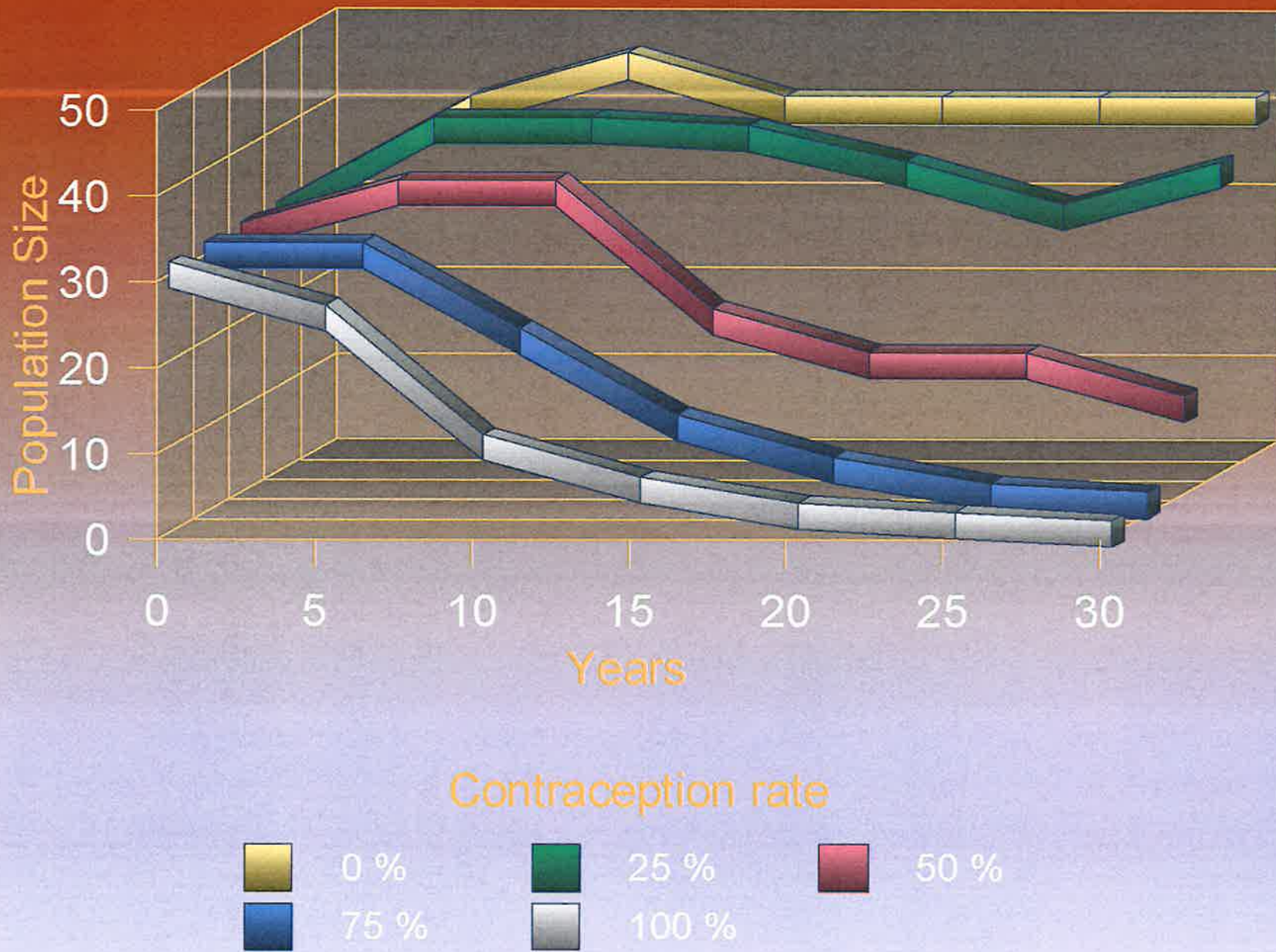
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  - Delivery system
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Adapted from: Seagle, S.W. and J.D. Close. 1996. *Biological Conservation* 76:87-91

## Reproductive control in wildlife: Is it a viable management tool for deer?

- **Economics**
  - Can you afford to wait for reproduction control to reduce herd size?
  - Shift from “license user fees” to potentially costly programs
    - Labor costs

## Reproductive control in wildlife: Is it a viable management tool for deer?

- **Ethics**
  - Side-effects
  - Herd social organization
  - Fawning late in the season
  - Hunting cultures



Reproductive control in wildlife: Is it a viable management tool for deer?

No



Lethal control is the most cost-effective means of reducing deer densities.

- *landowners: allow access to farms by sport hunters*
  - *control what animals are taken - **does***
- *tenants: encourage landowner to allow access*