

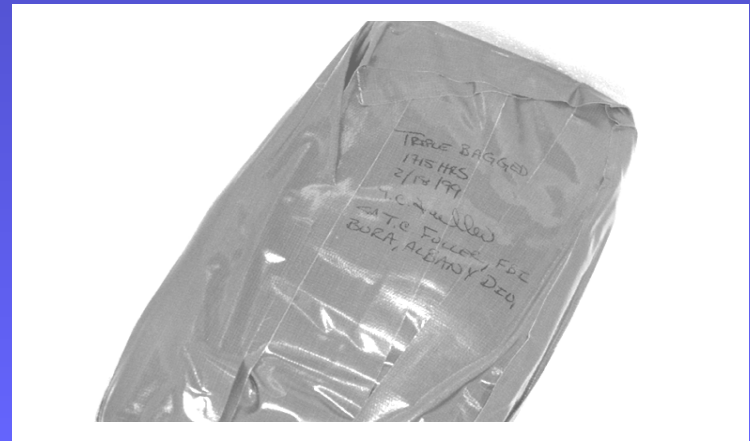
# Rapid Molecular Identification of *B. anthracis* in New York State in Response to Recent Bioterrorism Incidents



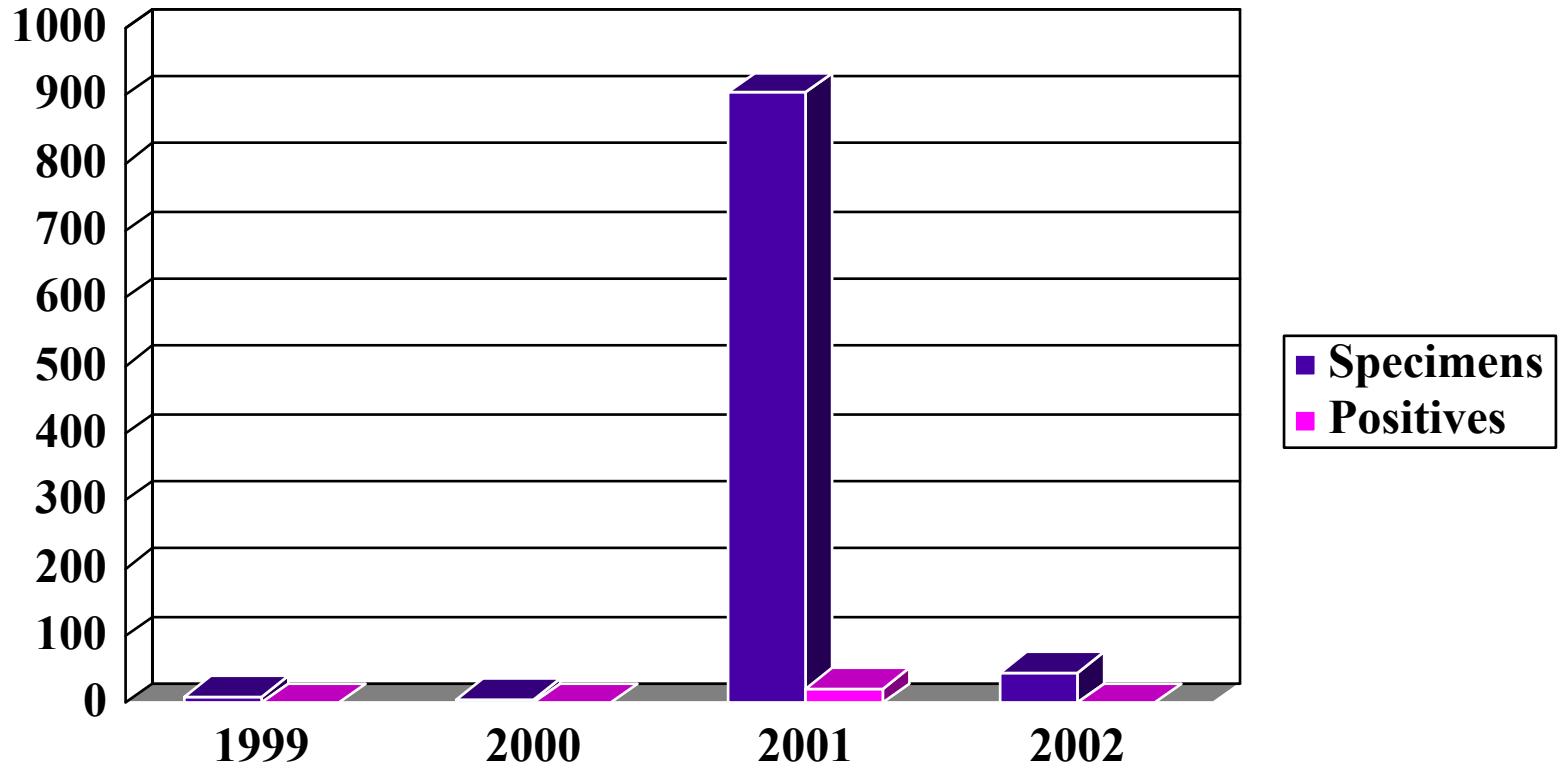
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Bioterrorism Response Team  
Wadsworth Center  
NYS Dept. of Health

# BT Incident Log

No.	Date	County/State	Threat
1	2/19/99	Vermont	Letter
2	2/19/99	Vermont	Letter
3	2/22/99	Columbia	Letter in garbage bag
4	5/17/99	Onondaga	Letter/Powder
5	5/17/99	Onondaga	Letter/Powder
6	5/19/99	New York City	Canister
7	6/15/99	Nassau	Letter
8	6/15/99	Nassau	Letter
9	8/19/99	Onondaga	Letter/Blades
10	12/7/99	Ulster	Envelope
11	1/3/00	New York City	Letter
12	1/4/00	New York City	Letter
13	1/5/00	Vermont	Letter
14	1/6/00	Vermont	Letter
15	11/2/00	New York	Letter, powder
16	11/24/00	New York	Letter, powder
17	11/28/00	New York	Letter, brown powder



# Biothreat Specimens Processed by New York State

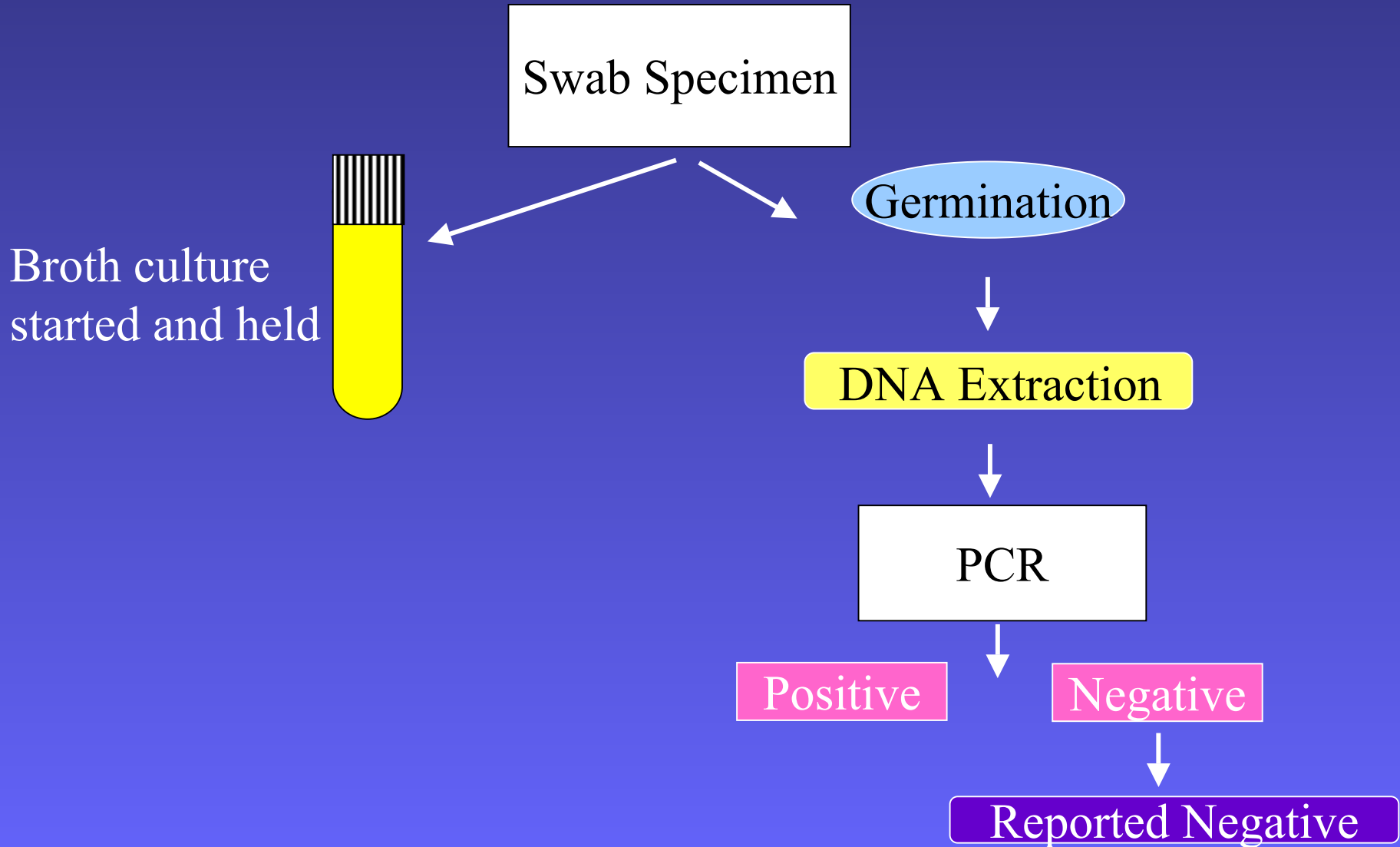


# Meeting the Challenge of Specimen Testing



	Before October 2001	October 2001-Present
Processing	4-6 hours	20-30 minutes
Culture	6 plates, 2 broths	1 TSB broth
DNA Prep	1 hour	2 hours
PCR	Confirmatory	Screen Inhibition test
Follow-up	All suspect colonies	PCR pos. or inhibited
Time to Reporting	12-48 hrs	7 hours
# Specimens/ Day	2-5	50-200

# PCR Screen

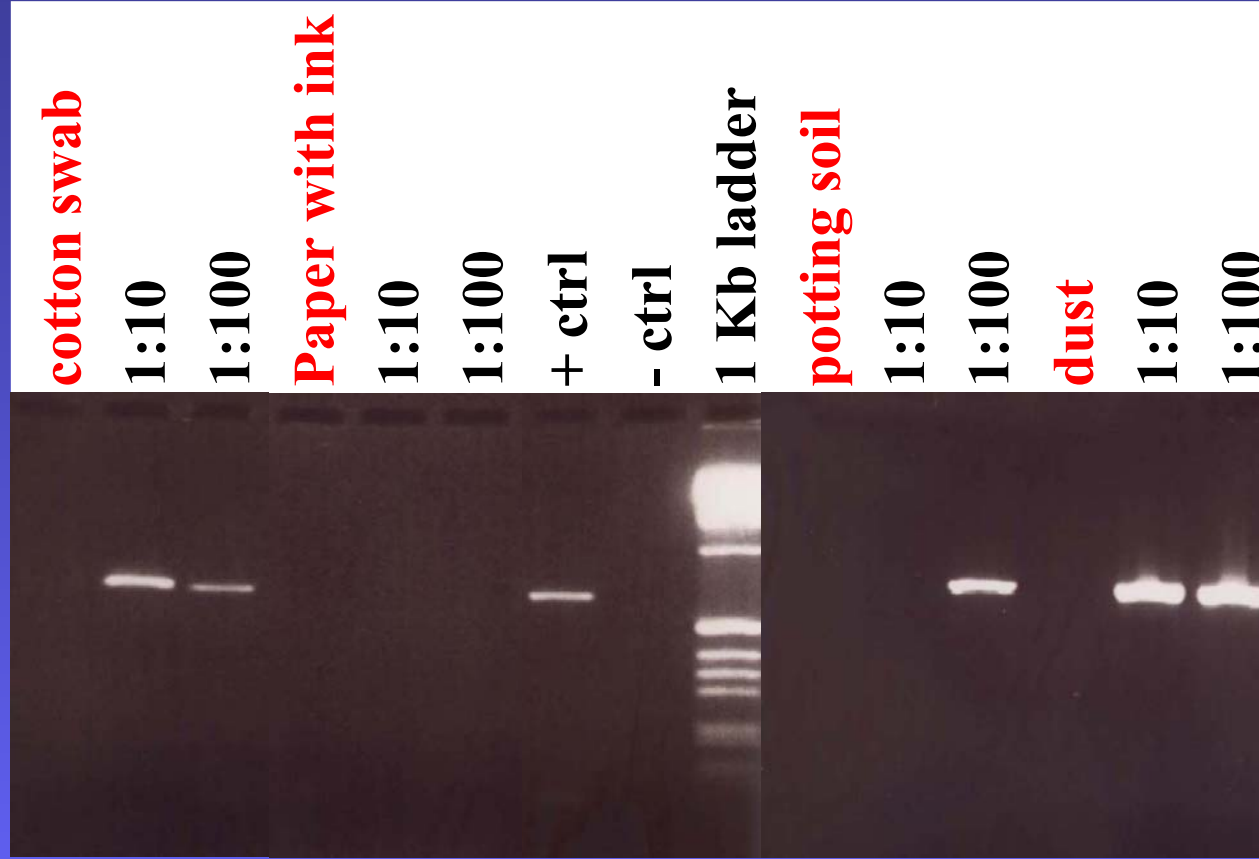


# PCR Inhibitors

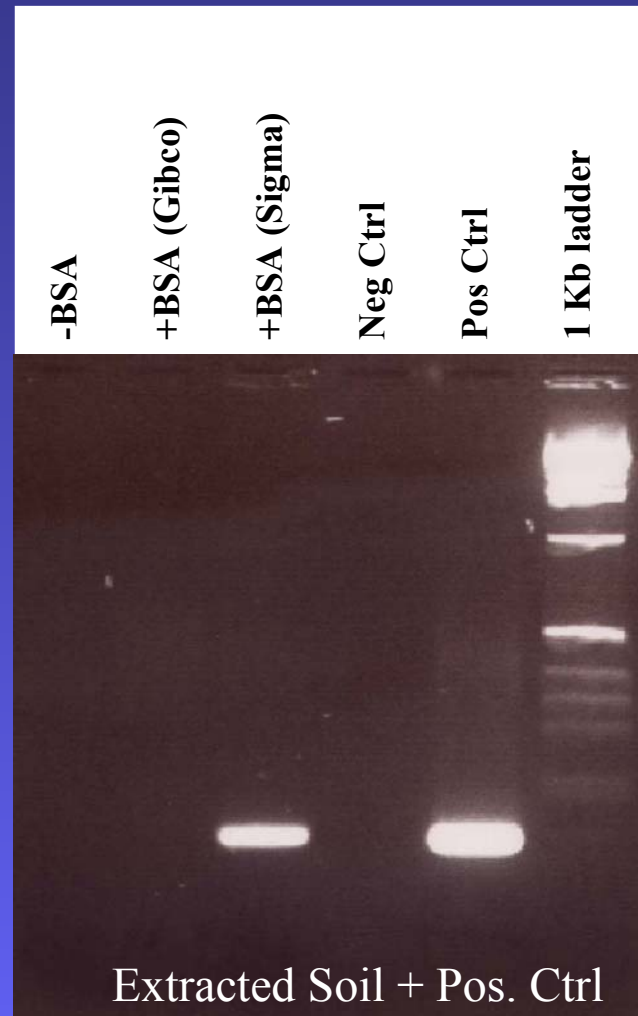
- **Experience with soil, meat, stool samples**
- **Evaluation of potential inhibitors**  
(common household powders, soil, blood, laboratory reagents, envelopes, past BT samples)
- **Comparison of Extraction kits**
- **Anti-inhibitors- Bovine Serum Albumin (BSA)**



# Many Substances are Inhibitory to PCR

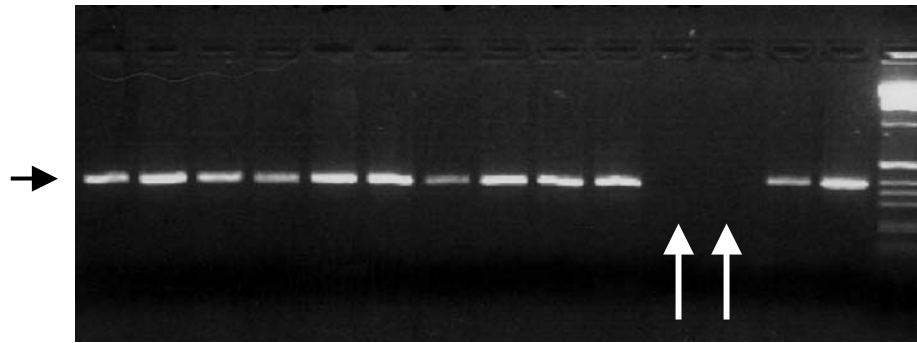


# Overcoming Inhibitors in PCR





# PCR Inhibition



**Environmental samples  
seeded with positive  
control DNA**

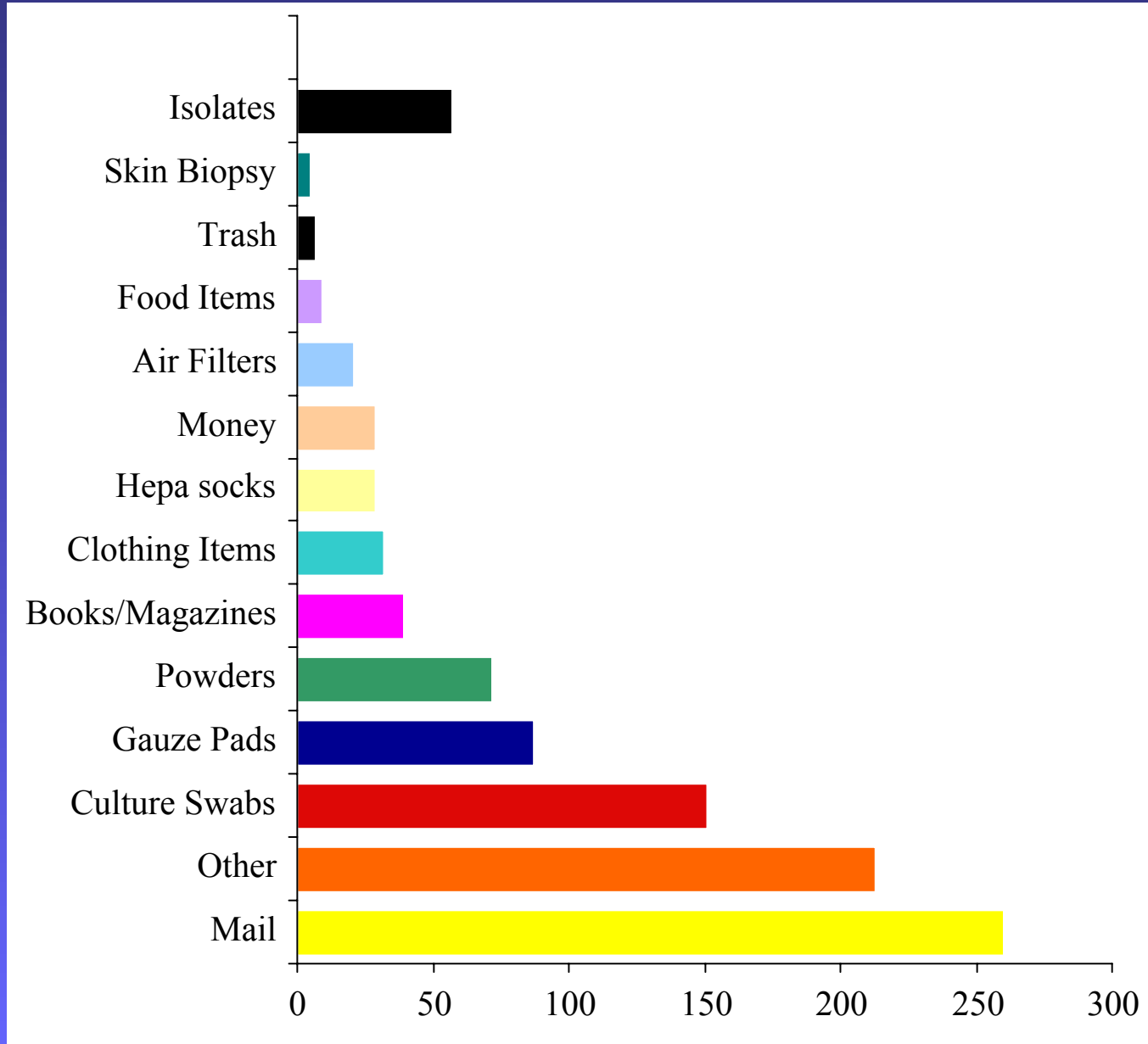
**3% Specimens Found to be Inhibitory**

# BT Specimen Data

- 950 samples tested to date for *B. anthracis*
- 23 have tested positive for *B. anthracis*
  - 9 CBS
  - 1 Governor's office
  - 2 environmental isolates  
(New York Post)
  - 11 Post Office



# Types of Specimens Received



# Acknowledgements

- **Stephen Davis and Ron Limberger**
- **M. Kelly, C. Egan, N. Dumas, A. Waring, T. Halse, P. Maupin, K. Hechemy, J. Hibbs, and D. Morse**
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