

ASTM International Standards for the Commercial Biocontrol Industry



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ASTM E35.30
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Biocontrol in the Americas-Past, Present and Future
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ASTM Subcommittee E35.30

*Natural Multi-Cellular
Biological Control Organisms
formed 1998*

Main Committee:

*E35 Pesticides and
Alternative Control Agents*

ASTM International

- *Organized in 1898*
- *Provide a management system and the administrative framework for the development of voluntary, consensus standards and promotion of related knowledge*

Many Technical Committees

Examples

- *Metals*
- *Electronics*
- *Medical devices and services*
- *Amusement rides*
- *Environmental testing*
- *Headgear used by goaltenders is evaluated via ASTM F1587 "Standard Specification for Head and Face Protective Equipment for Ice Hockey Goaltenders."*

Code on product ASTM #####

- *Producer makes the claim to meet a given standard by stamping ASTM and the number of the standard that they claim to conform to.*
- *You see these numbers on many kinds of products*

Voluntary Standards

- *Developed voluntarily*
- *Used voluntarily*
- *Standards become mandatory only:*
 - *When cited in a contractual agreement*
 - *When referenced and mandated by a Government Body*

ASTM Structure Requires

- *Open and balanced membership*
- *Regular meetings*
- *Votes to accept or reject standards*
- *Meeting minutes*
- *Measures of precision and bias*
- *Interlaboratory tests on test methods*
- *Review and revote every 5 years*

Membership

- *Open membership*
- *One vote per “voting interest”*
- *Balanced participation ensures the development of standards with the highest credibility when critically examined and used as the basis for commercial, educational, legal or regulatory actions*

Interests Invited & Represented

- *Producers (manufactures)*
- *Users (producer's customers)*
- *Academia*
- *Government*

“Tout le monde”

Revisions

- *Standards subject to revision at any time by responsible technical committee*
- *Everyone is invited to comment on standards*
- *All comments are given due process*

We ALL want excellent credible test methods to evaluate product

- *The process has attracted highly valuable participation from different sectors*
- *This forum facilitates communication between seemingly opposing points of view*

Published Specification Standards

- *Amblyseius cucumeris*, Don Elliott
- *Aphidoletes aphidimyza*, Don Elliott
- *Cryptolaemus montrouzieri**, Angela Hale
- *Encarsia formosa*, Anna Luczynski
- *Feltiella acarisuga*, Angela Hale
- *Podisus maculiventris*, Angela Hale
- *Phytoseiulus persimilis**, Anna Luczynski
- *Terminology*, Carol Glenister
- *Information specification*, Carol Glenister

**Revision or renewal to be balloted in 2010*

Standards to ballot in 2010

- *Delphastus catalinae*, Don Elliott
- *Eretmocerus eremicus*, Anna Luczynski
- *Hypoaspis/Stratiolaelaps* spp., Don Elliott

Standards in process

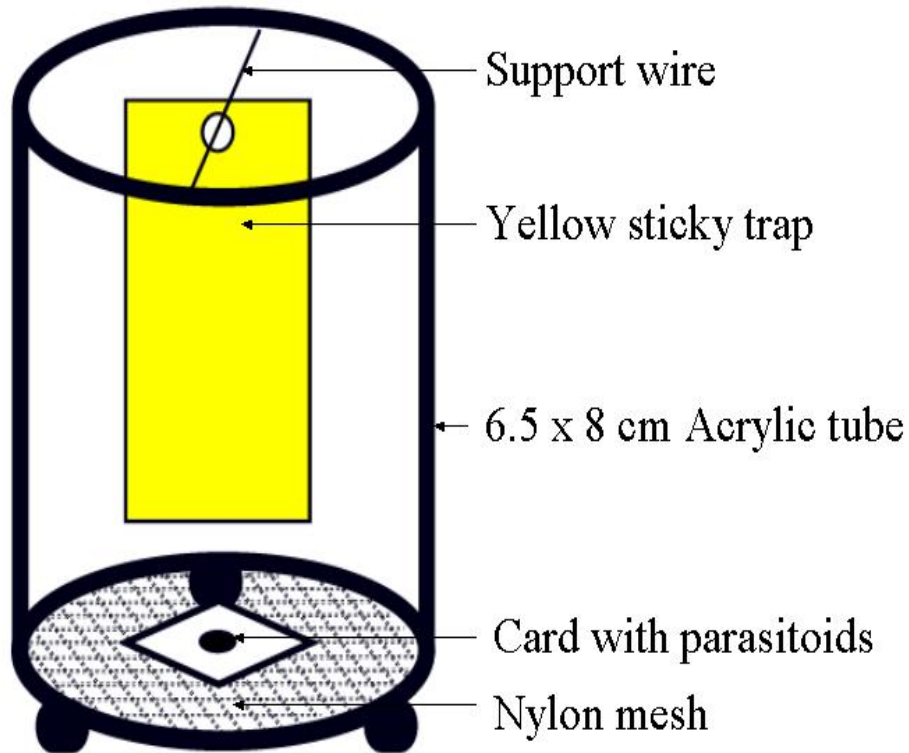
- *Entomopathogenic nematodes*
Anna Luczynski
- *Phytoseiids on leaves*
Kim Horton
- *Predators on factitious feeder mites*
Anna Luczynski

Standards planned

- *Atheta coriaria*, Richard Ward
- *Fly parasites (Pteromalidae)*, Carol Glenister
- *Stethorus punctillum*, Brian Spencer

<i>Standards should include</i>	<i>Yes</i>	<i>No</i>	<i>Sometimes</i>
<i>Specifications</i>	X		
<i>Enumeration of product</i>	X		
<i>Sex ratio of product</i>	X		
<i>Viability of product</i>	X		
<i>Production methods</i>		X	
<i>Performance</i>	X		
<i>Fitness test as indicator</i>			X
<i>Simple user test</i>			X
<i>Precise test</i>	X		
<i>95% confidence interval</i>		X	
<i>Standards to differentiate quality level for premium price</i>		X	
<i>Statistical criteria for rejecting product</i>	X		

E2199-08e1 Standard Specification for Encarsia formosa Gahan



Enumerate wasps
Test Fitness
Test statistically

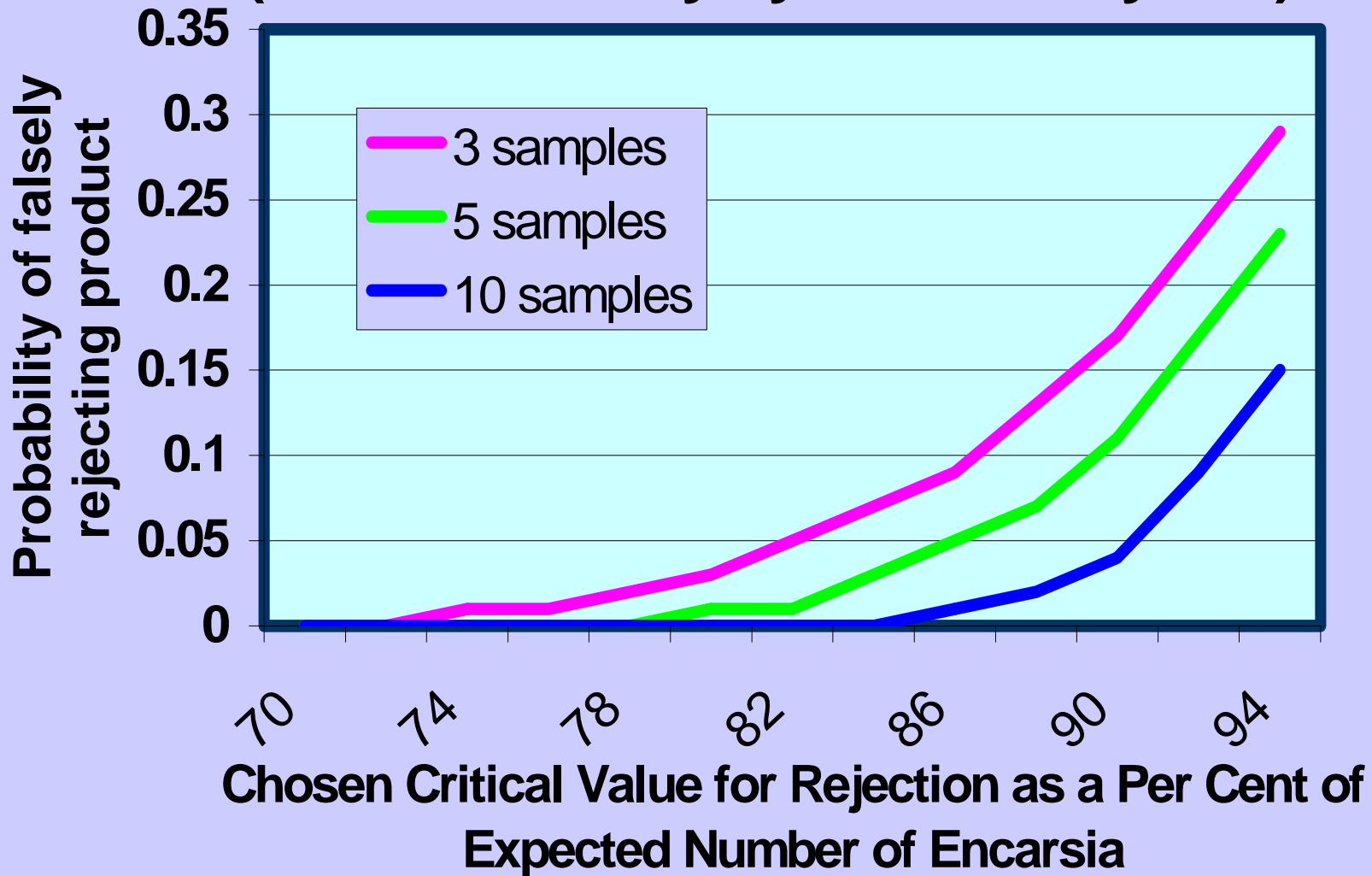
Anna Luczynski and Ian Shi

Table for Encarsia Critical Values based on Operating Characteristic Function commonly used in Quality Control Sampling and evaluation

Critical Value for Rejection as % of package claim	Probability of false rejection for n samples of		
	3 samples	5 samples	10 samples
70	0	0	0
72	0	0	0
74	0.01	0	0
76	0.01	0	0
78	0.02	0	0
80	0.03	0.01	0
82	0.05	0.01	0
84	0.07	0.03	0
86	0.09	0.05	0.01
88	0.13	0.07	0.02
90	0.17	0.11	0.04
92	0.23	0.17	0.09
94	0.29	0.23	0.15

Jan Nyrop and Anna Luczynski

Probability of falsely rejecting perfect product given different number of samples (data from study by Anna Luczynski)



How can YOU contribute?

- *Use ASTM methods to evaluate products*
- *Participate in a task group (ASTM membership not required)*
- *Join ASTM and vote on the standards as they are adopted, revised or reratified*
- *Participate in interlaboratory test of protocol*

Reballot/Revision years

- *Amblyseius cucumeris*(13), Don Elliott
- *Aphidoletes aphidimyza* (13), Don Elliott
- *Cryptolaemus montrouzieri* (10), Angela Hale
- *Encarsia formosa* (13), Anna Luczynski
- *Feltiella acarisuga* (13), Angela Hale
- *Podisus maculiventris* (13), Angela Hale
- *Phytoseiulus persimilis* (10), Anna Luczynski
- *Terminology* (14), Carol Glenister
- *Information specification* (10), Carol Glenister

Structured communication has generated

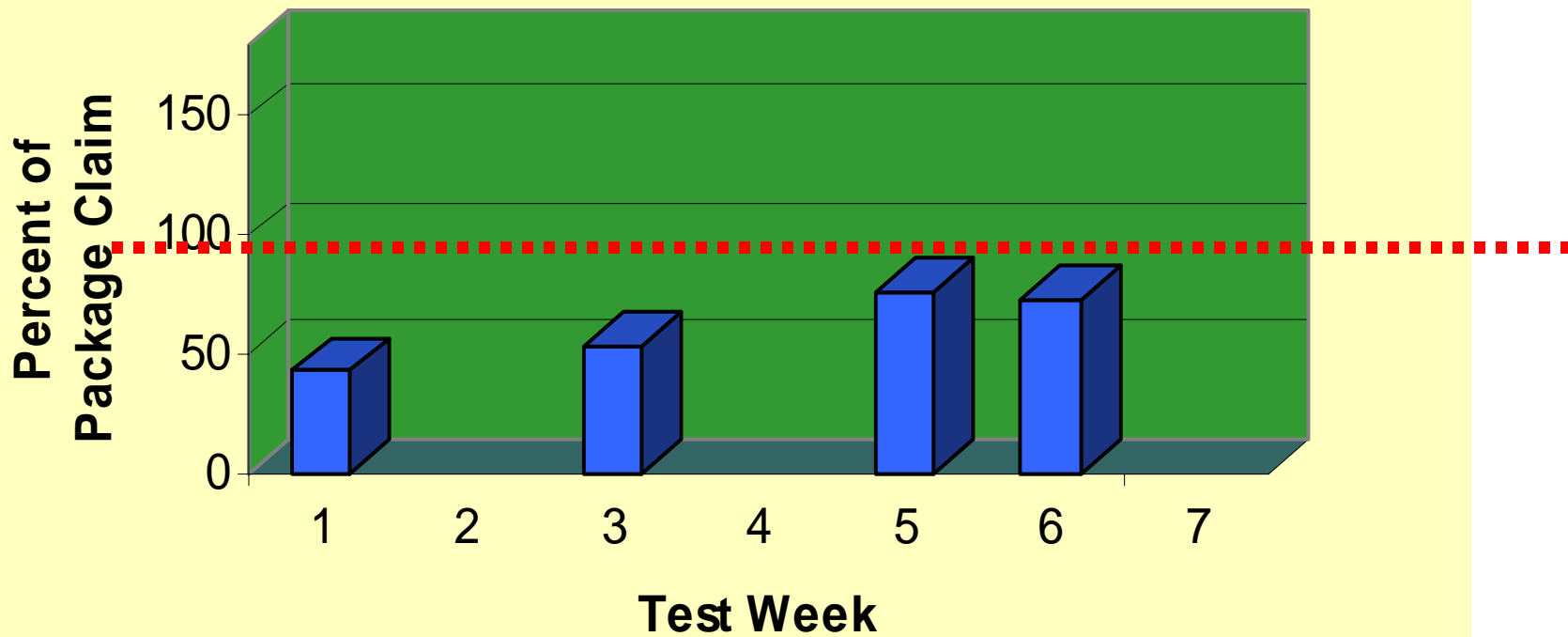
- ***Questions***
- ***Interest***
- ***Understanding***
- ***A mutual way forward***

Process Control Insights

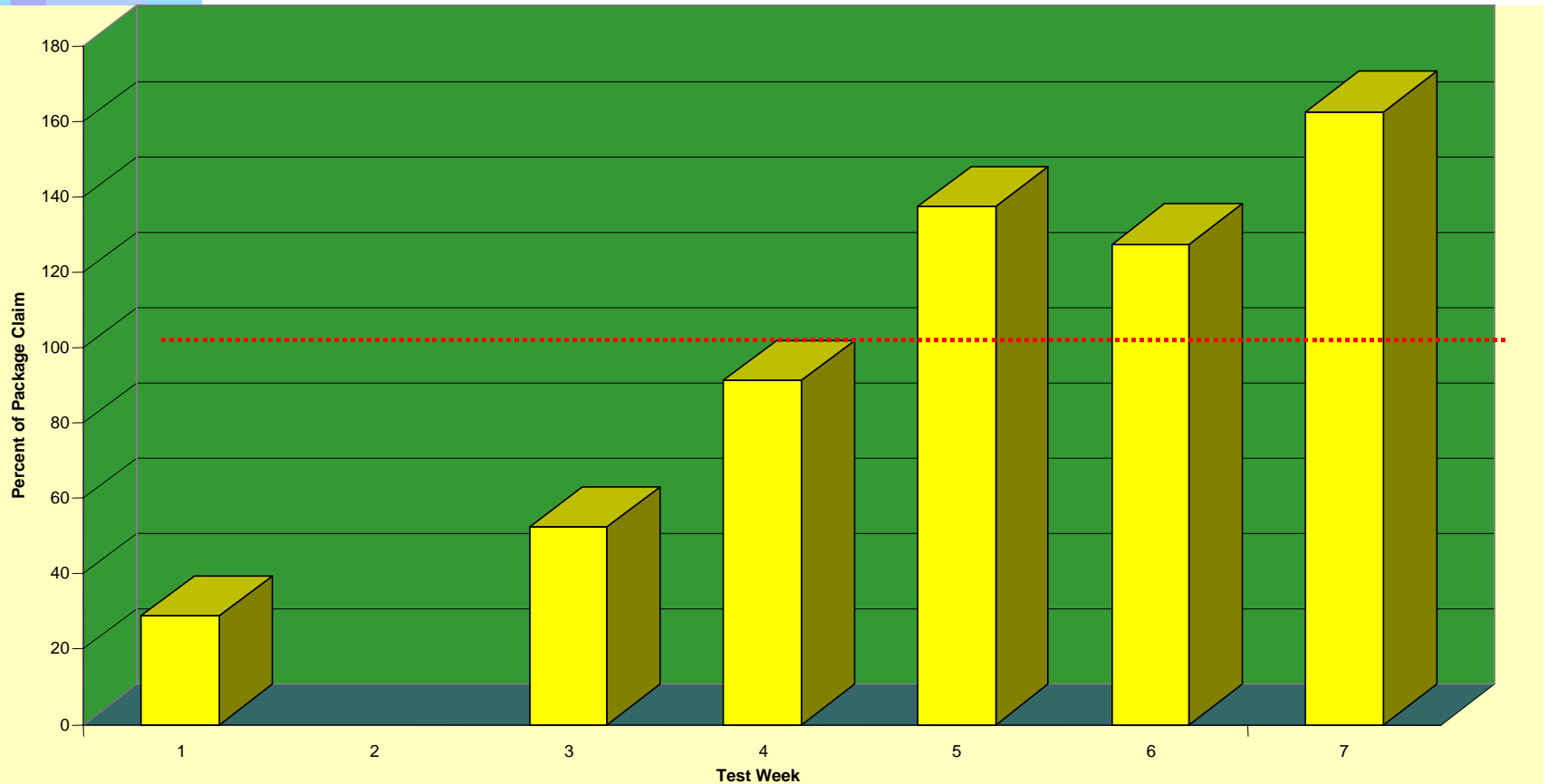
- *Angela Hale: What kind of over packing is needed to assure the customer receives 100% of what we claim?*
- *Anna Luczynski: How can *P. persimilis* producers assure that they ship mostly young, fecund females?*

2007 Problem Product

Quality Assessment Data - Product A



2007 Positive Response



The Road Forward

- *Continue a welcoming atmosphere*
- *Continue regular meetings, but expand to more work over the internet*
- *Keep records that honor and recognize every point of view*
- *Support and develop leaders that can develop and improve standards*



More information on ASTM

www.astm.org

Acknowledgements

- *Task Group Chairs*
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