

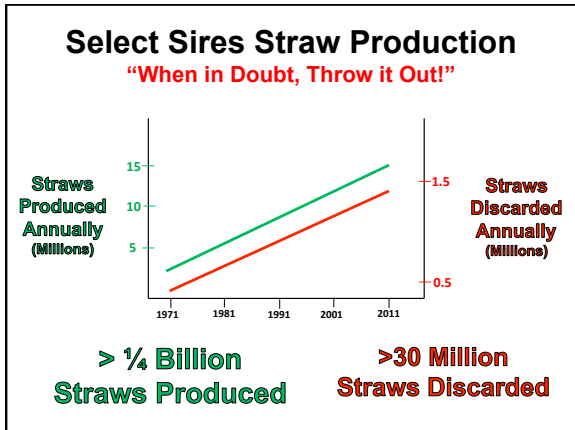
Quality Control

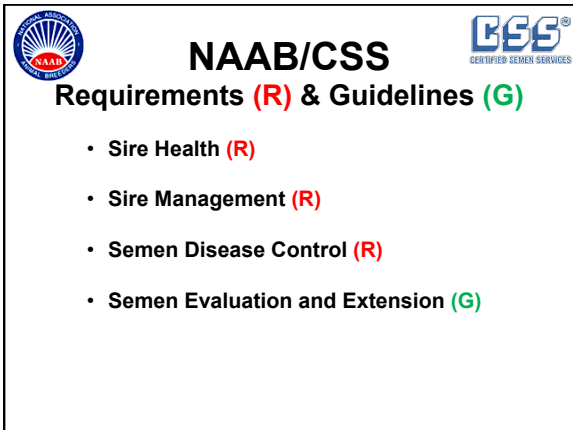
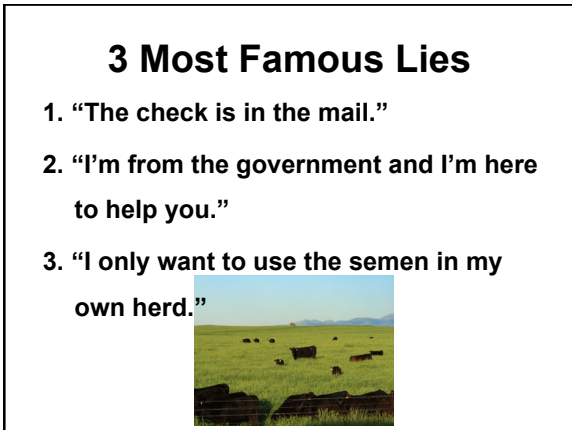
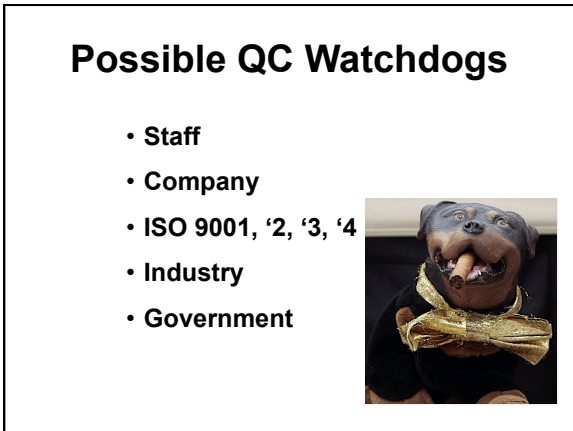
Cost or Investment?

QC "Opportunities"

SEMEN QUALITY AND FERTILITY

"Unhappy Customer"







A.I. Sire Health

An Industry Standard QC Effort

Pre-Entry Health Testing

- Tuberculosis (≤ 60 days)
- Brucellosis (≤ 30 days)
- Leptospirosis (5 serotypes) (≤ 30 days)
- Bovine Viral Diarrhea (≤ 30 days)
- Physical Exam



Isolation Health Testing (60 Days)

- Tuberculosis
- Brucellosis
- Leptospirosis (5 serotypes)
- Campylobacteriosis (up to 6x)
- Trichomoniasis (up to 6x)
- BVDV

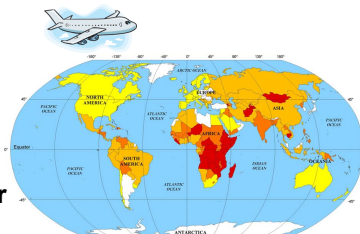


Resident Herd Semiannual Health Testing

- Tuberculosis
- Brucellosis
- Leptospirosis (5 serotypes)
- Trichomoniasis
- Campylobacteriosis

Special Export Disease Testing

- BLV
- BTV
- EHD
- VS
- Q Fever
- IBR
- Johne's Disease
- etc.




Sire Management QC

- Travel
- Housing
- Water/Feed
 - Quality and Quantity
- Bedding/Comfort
- Waste Disposal




Sire Management Body Condition Score


High → Low



Low Semen Viability → High



General Hygiene Control QC

- Clean Bulls
- Clean Collections
- Clean Evaluation
- Clean Processing



Semen Identification QC



- @ Collection
- @ Initial Evaluation
- @ Through Sex Sorting
- @ Straw Printing
- @ Straw Filling
- @ Racking
- @ Caning

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Semen Extender QC

- Ingredients and Weights
 - Eggs
 - Milk
 - Sugars
 - Salts
- Extender QC
 - pH
 - Osmolarity
 - Components
- Preparation Chronology
 - Steps 1, 2, 3

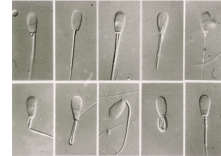
Semen Antibiotics QC

- Brand X
- Preparation Chronology
 - Steps 1, 2, 3
- Weights
- Raw Semen Addition
- Extender Addition



Processing QC

- Volume (weight)
- Cell Numbers
- Initial Viability
- Morphology
- Cells/Straw
- Extender Addition Chronology
 - Time
 - Temperature



Processing QC

- Straw Printing
 - Essential Information
 - Clarity
- Filling and Sealing
 - Identification
 - Full Straws
- Freezing
 - Time
 - Rate
 - I.D.
- Caning
 - I.D.



Periodic Procedural Quality Assurance

- Balances
- Temperatures
- Osmolarity /pH meter
- Volume
- Hygiene
- Cell Numbers



Pre Freeze Semen Traits QC

- Motility and Rate
- Morphology
- Contaminants
 - Blood
 - Pus
 - Dirt



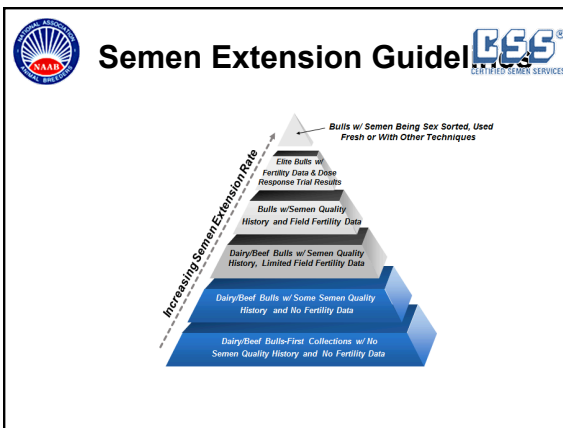
Post Freeze Semen Traits QC

- Motility
- Incubated Motility
- Morphology
- FLO Cytometry
 - Cell Membrane Integrity
 - Sperm DNA Integrity
- Sire I.D.



A.I.'s Purpose

To Provide **Highly Fertile Semen** from **High Genetic Value Sires** to **Enhance the Productivity and Profitability of their Offspring.**

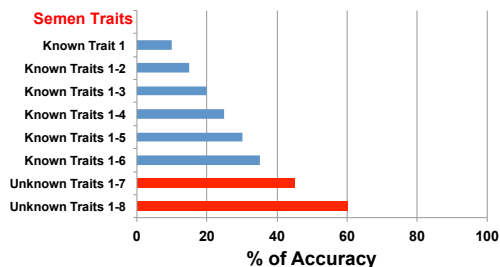


Why QC?

- Eliminate Garbage
- Predict Fertility Ranking
- Sleep better at night



Utility in Ranking Bulls for Fertility



Fertility Ranking of Bulls (The Ultimate QC)

- **Dairy Bulls:** ± 0
 - Relative Breeding Efficiency $+2.5$ (SS Progeny Test Herds)
 - ATA (Regional DHI Processing Center) $+1.7$
 - SCR (USDA Sire Conception Rate) $+2.9$



- **Beef Bulls:**
 - Hearsay: ("Joe says...")
 - Innuendo: ("His daddy was...")
 - Swag Estimates ("I'd bet...")
 - Gripe Factor: ("He really sucks!!!")



Dr. D's BIF Message:

If you wish to do something useful,

"Create a Beef Bull Fertility Ranking System."

Happy Customers !!



In Memory of
"SANTA ROY"

