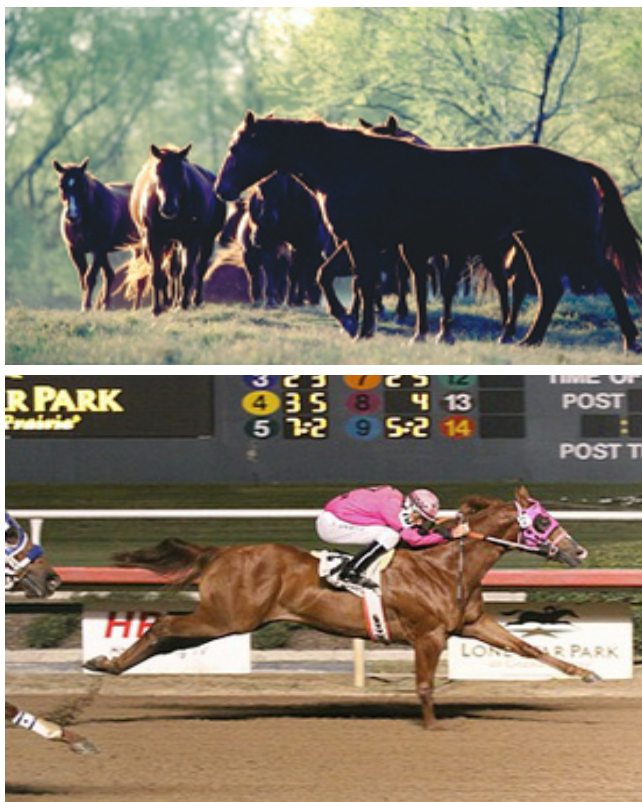


Equine Piroplasmosis Update



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Equine Piroplasmosis Update

- **Current statistics:** total testing numbers, case counts, affected populations
- **Treatment update**
- **Texas ranch update**
- **Diagnostics and research update**
- **New concerns:** Smuggled horses, EP/EIA dual infection, exotic strain *T. equi*



Current Stats: Testing/Surveillance

Year	# Horses Tested at NVSL	# Horses Tested at NAHLN	Total # Horses Tested	# EP Positive
2009	9,170	0	9,170	9
2010	42,578	34,225	76,803	143
2011	32,683	42,997	75,680	31
2012	15,659	29,958	45,617	6
2013	14,386	24,553	38,939	27
2014*	10,7576	11,639	22,395	31
Total	125,232	143,372	268,604	247

*Laboratories reporting through Sept 2014

Case Counts and Disposition

Of the 247 EP-positives (237 *T. equi*, 10 *B. caballi*):

- 198 QH racehorses
- 13 TB racehorses
- 32 previous imports
- 1 QH roping horse
- 3 smuggled Spanish PRE (Mexico)
- 154 euthanized/died
- 18 legally exported
- 41 enrolled in the treatment program (22 released)
- 51 currently under quarantine in 9 states

- Most of the findings in QH/TB racehorses had documented epidemiological links to unsanctioned horse racing
- No tick-borne transmission identified in any of these cases

Treatment Update

- **Long-term Quarantine with Enrollment in APHIS-VS/ARS Treatment Research Program**
 - High-dose imidocarb protocol
 - Definition of clearance = removal of all transmission risk
 - **200+ horses have completed treatment**
 - **11 horses failed treatment on 1st attempt**
 - 7 horses were retreated and cleared
 - 1 did not clear on retreatment
 - **At least 150 now cELISA negative post-treatment**
 - **Time to cELISA negative: 1-2 years**
- **APHIS-VS policy established to release treated, cleared, cELISA negative horses (February 2013)**

Treatment Update: VS policy

- **2011 USAHA Resolution #21: internal VS working group evaluated all data from the VS/ARS treatment program**
- **Domestic VS policy for quarantine release of previously *T. equi*-infected horses that meet the following criteria:**
 - **Enrolled in VS/ARS treatment research program AND**
 - **Treated using ARS published high-dose imidocarb dipropionate treatment protocol under State or Federal supervision; AND**
 - **Permanently identified using an ISO-compliant microchip with the identification number held in data repository accessible by State and Federal animal health officials; AND**
 - **Nested or real-time PCR negative on a series of at least three (3) post-treatment samples collected a minimum of 30 days apart; AND**
 - **Negative by transfusion to a splenectomized horse OR negative by the ARS Western blot clearance test; AND**
 - **cELISA and CFT negative at NVSL.**
- **Additionally, States should establish a compliance agreement with the horse owner to conduct the cELISA test annually for 3 years post-treatment as added assurance of continued disease freedom**

Update on Texas Ranch Incident (2009-2010)

- **2,500 horses tested** in this outbreak
- **413 positive** horses identified in 16 states
- Infection and tick-borne transmission on the ranch since at least 1990 (spread by *Amblyomma cajennense*)
- No tick-borne transmission on any premises outside of south Texas
- Still have positive horses quarantined in 5 states
- **Index Ranch update:**
 - Euthanized 130+ horses
 - **163 horses treated**
 - **132 of 163 now cELISA negative (no antibodies left)**
 - **Plan to consolidate antibody positive horses together this fall and release the rest of the ranch from quarantine**
 - **Continue annual assurance testing of all horses on the ranch**
- Ongoing surveillance in Texas – area testing

Diagnositics and Research Update

- Status of *T. equi* Western blot clearance test
 - Moved to NVSL; validation expected to be completed by end of CY2014
- Diagnostic strain typing as epidemiologic tool
 - 2013 USAHA Resolution #7 and #14 (combined)
 - Development of whole genome sequencing protocol for *T. equi* underway at NVSL (unknown ETA)
- New research at ARS: exotic strain of *T. equi*
 - Found to date only in handful of horses from Mexico
 - Doesn't behave as expected on our diagnostics
 - Closely related to *T. equi* in zebra from S. Africa
 - Appears to be mild strain (morbidity, no mortality)
 - Regulatory significance: Undetermined

EP – New Concerns

- Exotic strain *T. equi* ?
- Smuggled horses from Mexico
 - Newly identified route of influx for Spanish PRE's
 - Uncovering more instances of equine movement back and forth than previously thought (bushtrack QH)
- EP/EIA dual infections – QH bushtrack
 - New cluster(s) identified in California (8 dual infections; additional cohorts infected with either EP or EIA)
 - Need awareness and appropriate testing when high-risk horses are encountered during investigations
 - Need samples of blood/serum products from Mexico found during EP investigations for analysis

Questions?

