Equine Identification and Traceability

Debbie Fuentes
Registrar and Senior Director Registry Services
Evolution of Identification of the Arabian Horse

1908
Evolution of Identification of the Arabian Horse

1972 - 1989

- Freeze Branding
  - Alpha-Angle Freeze Mark Identification
    - Developed by Keith Farrell of Washington State University
  - Administered by AHA Field Representatives
    - Confirmed identity match with Certificate of Registration
    - Four representatives throughout United States
      - Performed farm visits, random parentage testing and import inspections

http://www.kryokineticsusa.com/index.html
Evolution of Identification of the Arabian Horse

1976
- Breeding stallions required to have blood type on permanent record
  - Random parentage testing done by Field Representatives
  - Confirmed identity, not parentage
Evolution of Identification of the Arabian Horse

1991

- Required parentage verification with the 1991 foal crop
- Utilized blood typing at time of registration
Evolution of Identification of the Arabian Horse

2001

- DNA testing proven to be more accurate and more efficient in parentage verification
  - Testing offered at reduced price for breeding stock
  - DNA testing offered to 2001 foal crop
    - 85% of foals registered in 2001 were parentage verified utilizing DNA testing
2002

- All new Purebred Arabian registrations required to be parentage qualified utilizing DNA typing
Evolution of Identification of the Arabian Horse

2003
DNA Parentage Qualification

- Parentage Qualification to Purebred Arabian parent(s)
  - Highly effective tool for identity at time of registration and for solving identity issues
  - Required for every Purebred Arabian registration
    - Approximately 1% of new registrations don’t qualify initially
  - Required in certain circumstances for Half-Arabian registration
    - Embryo transfer
    - Over 2 years-old at the time of registration
  - Required for participation in select Half-Arabian classes at National Shows
DNA Parentage Qualification

- Random testing at National Events
  - Initiated in 2012
  - Identification comparison to type on record
    - Confirms the horse being shown is the same horse that was registered
  - Testing of Champion and Reserve Champion in random classes – typically money earning classes
Identification of the Arabian Horse

- Racing
  - Unique Certificate of Registration issued
    - Cowlicks identified
    - Markings described extensively
    - Tattoo of registration number administered by Thoroughbred Racing Protective Bureau
Identification of the Arabian Horse

- Export
  - Passport Documentation
    - International horse identity
    - Full pedigree, foaling date, color, gender and markings
    - Vaccination and medical history
    - Microchip information can be recorded
Identification of the Arabian Horse

- Exports must be recorded with our office
  - High demand
  - The Export Certificate includes DNA profiles, blood types, pedigree, covering certificate
  - Sent directly to importing country’s Registry

AHA Exports

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Horses Exports</th>
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<tbody>
<tr>
<td>2012</td>
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<td>2013</td>
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<td>2016</td>
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Challenges in Identification of the Arabian Horse

- Microchips are not as popular in the United States as in other countries
  - Recorded on identification documentation when applicable
Challenges in Identification of the Arabian Horse

- Horses that were initially registered have been separated from Certificate of Registration
  - Loss of data with multiple transfers
- Abolishment of slaughter
  - Unregistered horses
  - Increased number of undocumented horses in circulation
- Upcoming requirements for horses that race abroad
  - Confirmation of identity with a second DNA test and microchipping required
- Capturing the microchip data for horses competing in disciplines that require microchips
Future Identification of the Arabian Horse

- Microchips
  - Not required by AHA, but documented and recorded
  - Valuable resource
    - Currently no global equine database
- Utilized in European and Middle Eastern countries
  - To date, very small demand in U.S.
  - Recorded on Passports and export documents where applicable