West Eurasia Regional Roadmap Meeting

The effectiveness of control measures to mitigate the risk of FMD in Armenia

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NC of EUFMD/FAO project
Armenia
2012
Veterinary services

Prime Minister

State Service for Food Safety
- Republican veterinary-sanitary and phyto-sanitary laboratory services center
  - 10 Marz – Level Laboratories
- Scientific center for risks assessment and analysis in food safety area
  - 10 Marz-Level Inspectorates

Ministry of Agriculture /MoA/
- Centre of Veterinary, Food Safety and Phytosanitary Services
  - Community Veterinarians
The main systems of husbandry

- Basically, small livestock farms (yard) - from 2 to 20 animals with a very low level biosafety
- Livestock farms of medium size - 50 - 200 animals
- Large livestock farms - (number of animals - 500-1 thousand heads) with modern equipment
## The number of susceptible animals

<table>
<thead>
<tr>
<th>Marz</th>
<th>LR</th>
<th>SR</th>
<th>Pigs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aragatsotn</td>
<td>75700</td>
<td>82100</td>
<td>9500</td>
</tr>
<tr>
<td>Ararat</td>
<td>41400</td>
<td>70500</td>
<td>12000</td>
</tr>
<tr>
<td>Armavir</td>
<td>47700</td>
<td>71000</td>
<td>12400</td>
</tr>
<tr>
<td>Gegharquniq</td>
<td>98500</td>
<td>91700</td>
<td>8000</td>
</tr>
<tr>
<td>Kotayk</td>
<td>54200</td>
<td>41000</td>
<td>14600</td>
</tr>
<tr>
<td>Lori</td>
<td>74300</td>
<td>28700</td>
<td>7400</td>
</tr>
<tr>
<td>Shirak</td>
<td>99700</td>
<td>82300</td>
<td>15300</td>
</tr>
<tr>
<td>Syuniq</td>
<td>52500</td>
<td>86300</td>
<td>7700</td>
</tr>
<tr>
<td>Tavush</td>
<td>34100</td>
<td>15100</td>
<td>14300</td>
</tr>
<tr>
<td>Vaiots Dzor</td>
<td>18500</td>
<td>19500</td>
<td>1400</td>
</tr>
<tr>
<td>Yerevan</td>
<td>2500</td>
<td>1900</td>
<td>5400</td>
</tr>
</tbody>
</table>
Types of used vaccines against FMD /2011/

1. A Iran05, O Pan Asia 2, Asia 1 /State. Facilitation/
2. A Iran05, O PanAsia 2 /FAO/
• A Iran 05, O PanAsia2, Asia1 Georgia 2001 /FAO, Vladimir ARRIAH/
## Number of vaccinated animals in 2011
(spring and autumn campaigns & include revaccination)

<table>
<thead>
<tr>
<th>Marz</th>
<th>LR</th>
<th>SR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aragatsotn</td>
<td>208196</td>
<td>35370</td>
</tr>
<tr>
<td>Ararat</td>
<td>113277</td>
<td>66589</td>
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<tr>
<td>Armavir</td>
<td>124723</td>
<td>64173</td>
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<tr>
<td>Gegharquniq</td>
<td>327163</td>
<td>21570</td>
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<tr>
<td>Kotayk</td>
<td>168263</td>
<td>-</td>
</tr>
<tr>
<td>Lori</td>
<td>210580</td>
<td>1710</td>
</tr>
<tr>
<td>Shirak</td>
<td>252128</td>
<td>60560</td>
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<tr>
<td>Syuniq</td>
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<td>Tavush</td>
<td>108810</td>
<td>96</td>
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<tr>
<td>Vaiots Dzor</td>
<td>36827</td>
<td>17543</td>
</tr>
<tr>
<td>Yerevan</td>
<td>5728</td>
<td>300</td>
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</tbody>
</table>
Participants in the program

• The State service for food safety of the Ministry of Agriculture of Republic of Armenia
• Republican veterinarian-sanitarian and phyto-sanitarian center of laboratory
• services
• EuFMD/FAO
Aim of program

- After vaccination campaign to assess the degree of immunity in FMD susceptible animals (*large & small ruminants*)
- Checking the quality of vaccination activities
- Advice on boosters vaccination
Department of ELISA
Post vaccination serosurveillance 2010/2011

• Aim:
  1. NSP antibody surveys in FMD susceptible animals (large & small ruminants, pigs)
  2. SP structural antibody surveys to estimate FMD population immunity in LR and SR

• Design:
  ✓ LR: 73 villages and 32 samples per villages = 2336 samples
  ✓ SR: 35 villages and 16 samples per villages = 560 samples
  ✓ Pigs: 1-2 sample per villages = 150-200 sample

ExCom79
Result of 2010/2011 sero survey

- **2010 Collected and tested:**
  - **Armenia:**
    - 54 villages – 1605 samples of LR
    - 453 samples of SR (124 samples from market)
    - 59 samples of pig
  - **NK:**
    - 19 villages - 510 samples of LR
    - 218 samples of SR
    - 15 samples of pig

- **2011 collected and tested**
  - 300 samples of LR (200 sample RA, 100 sample NK)
  - 8000 samples of LR (national program)

ExCom79
Distribution of % NSP antibodies (Marz level)

Aragatsotn: 18.24%
Ararat: 27.32%
Armeni: 9.38%
Gegharquiiq: 24.47%
Lori: 8.11%
Shirak: 28.16%
Syuniq: 32.04%
Vayots Dzor: 4.92%
Tavush: 18.89%
NK: 13.13%

ExCom79
Distribution of % SP antibodies (Marz level)

ExCom79
Distribution of % SP and NSP antibodies (Region level), 2011
Movement of animals and livestock products

INTERNALLY
- In one area (spring - autumn movement to pasture)
- Between regions (mainly in the north of the country - common pasture)

BETWEEN COUNTRIES
- Legal and illegal trade
- Mixing of animals on pastures

MARKETS FOR ANIMALS
- Major market is not marked,
- Distribution of animals across the country (played in the recent big role)

LARGE MANUFACTURERS OF DAIRY AND MEAT PRODUCTS
- The collection of milk from the population in the area
- Animals from different parts of
Control measures

Vaccination
In the year two times: spring and autumn campaign

• Control over the movement of animals
• Quarantine
• Veterinary and sanitary control
On the border / Checkpoints
  • Slaughter of infected animals:
  • Research and monitoring
  • Active research and MONITORING program is the study of outbreaks
• Serological study
Activities provided under quarantine

• Taking and sending samples to the laboratory for the determination of virus
• Isolation of infected and suspects animals
• Disinfection: Gogavan, Bavra, Ayrum - Georgia
  Agarak - Iran
• Prohibitions on the movement of animals
• Slaughtering of animals
• Monitoring
Conclusion

• There is a risk of morbidity
• Vaccination impact positively on the epidemic situation of the Republic
• The border regions are more prone to disease
Recommendations for improvement Control measures

Systematic vaccination of animals, to mitigate the risks of a registration and the entry of the disease

Conducting seromonitoring to determine the effectiveness of vaccination

Saving the necessary reserves of vaccine
Recommendations

• Retraining and improve skills vet staffs
• Upgrading of equipment
• Improvement of diagnostic methods, methods of implementation of PCR and Virology
• Organize disinfection in the border. / control vetpoints
• Improved diagnostic capabilities of the central and regional laboratory system
• Organize training on FMD, with the inclusion of employees of inspection & regional veterinaries and laboratory staffs
We consider that necessary to continue the strategy of vaccination and subsequent seromonitoring as the only possibility to achieve progress in the eradication of FMD in the region, strengthen the quality control of vaccination process. Without the help of international organizations and close mutual cooperation in the region to achieve progress in the eradication of foot and mouth disease is very difficult.
Thank you for your attention