Bluetongue Emergence in Peloponnisos (Greece)
(June – early July 2014)

Dimitrios Dilaveris, Animal Health Directorate /Dept. of Infectious Diseases (Min. of Rural Dev. & Food)
Bluetongue emergence in mainland Greece (June-early July 2014)

- Background information
- Current events
- Measures in place
- Preliminary conclusions - Future trends
- Acknowledgements
Bluetongue emergence in Peloponnisos (Greece) – Background information

BT epidemiological situation in Greece over the last years

East Aegean Islands

1997-1998: No evidence of BT anywhere in Greece (negative results of active surveillance)

1999: outbreaks, in the Island of the Eastern Aegean Sea

2000: No outbreaks

2001: outbreaks, only in the Island of Lesvos

2002-2007: NO OUTBREAKS ANYWHERE IN GREECE

2008: 78 outbreaks, all in the Island of Lesvos (BTV 16 + BTV 8)

2009: 191 outbreaks, mostly in the Island of Lesvos (BTV 16+ BTV 1)

2010: 36 outbreaks, about half in Lesvos and the rest in other islands (BTV 16)

2011: 10 outbreaks, in various islands of the Eastern Aegean Sea but not in Lesvos (BTV 16 & BTV 4)

2012: 91 outbreaks, in various islands of the Eastern Aegean Sea excluding some major islands like Limnos and Chios (BTV 4 mostly, BTV 16 detected by Real-time RT PCR in a single sentinel bovine combined with BTV 4)

2013: No BT outbreaks detected in any part of Greece.
Bluetongue emergence in Peloponnisos (Greece) – Background information

Previous occurrence of BT in mainland Greece (1999)

Aug-Dec 1999

1536 clinical outbreaks

11 out of 54 Prefectures with clinical disease
5 out of 54 Prefectures with serological evidence.

24,528 sheep destroyed

3 sero-types of BT virus identified (type 4, 9, 16)

BT vectors involved (C. imicola, C. Obsoletus)
Previous occurrence of BT in mainland Greece (2000)

Autumn 2000

10 outbreaks

1 Prefecture (Arta)

497 sheep/goats
(10% morbidity, 0 % mortality)
Clinical symptoms mild and transitory, obscured by an overlapping infection by orf.

BTV identified
4 (same strain as in Magnesia in 1999)

BT vectors involved
( = probably C.obsoletus, C.imicola not found )
Bluetongue emergence in Peloponnisos (Greece) – Background information

Previous occurrence of BT in mainland Greece (2001)

Sep-Dec 2001

174 clinical outbreaks,
11 out of 54 Prefectures clinically affected
28,154 animals involved, 1,303 animals sick, 203 animals dead, 1,021 animals destroyed

4 sero-types of BT virus identified (types 4,9,16,1)

BT vectors involved
C.imicola & C.obsoletus

No evidence of BT since 2001 in mainland Greece)
Bluetongue emergence in Peloponnisos (Greece) – Background information

Peloponnisos – Facts & figures

A peninsula that makes the southernmost part of mainland Greece.

Separated from Central Greece to the North by the Gulf of Corinth (width 8.4 - 32 km).

Road connection to the rest of mainland Greece through the Isthmus of Corinth and the Rio-Antirio Bridge.

Extensive coastline, mountainous interior.

**Distance (In a straight line)**
About 90 km from Crete
About 380 km from Libya
About 440 km from Italy

**BT NEVER RECORDED**

<table>
<thead>
<tr>
<th>Ruminants</th>
<th>Holdings</th>
<th>Heads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheep &amp; Goats</td>
<td>11.660</td>
<td>1.782.866</td>
</tr>
<tr>
<td>Cattle</td>
<td>4.694</td>
<td>36.322</td>
</tr>
</tbody>
</table>
Confirmation of the first BT outbreaks

As of 30/05/2014 (result produced on the evening of 29.05.2014) an outbreak of Bluetongue (BT) was confirmed in the Prefecture of Lakonia (Region of Peloponnisos, southern part of mainland Greece).

This was more than 10 years since the last outbreak in any part of mainland Greece and the first ever outbreak in Lakonia and the wider region of Peloponnisos.

Almost immediately after the 1st outbreak another 4 outbreaks were confirmed in its direct vicinity, within a radius of ~ 3-4 km.

Mild clinical signs, low morbidity and mortality.

BT virus type identified as BTV - 4
Vector Identified until now: C. obsoletus
Bluetongue emergence in Peloponnisos (Greece) – Current events

Further BT spread Week 1 (up to 6 June 2014)

Further spread to Lakonia. First outbreaks in Arcadia too.
Further BT spread  Week 2  (up to 13 June 2014)

Further spread to Lakonia and Arcadia. First outbreaks in Messinia too.
Further BT spread Week 3 (up to 20 June 2014)

Outbreak in Corinthia

Outbreak in Argolida

Further spread to Lakonia and Arcadia & Messinia.
Further BT spread  Week 4  (up to 29 June 2014)

Further spread to Lakonia and Arcadia & Messinia.
Bluetongue emergence in Peloponnisos (Greece) – Current events

The epidemic in figures (situation as at 2 July 2014)

<table>
<thead>
<tr>
<th>Prefecture</th>
<th>Date of confirmation of the 1st outbreak</th>
<th>Total number of confirmed outbreaks</th>
<th>Susceptible animals present (ruminants)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sheep</td>
</tr>
<tr>
<td>Lakonia</td>
<td>30 / 5 / 2014</td>
<td>63</td>
<td>7.743</td>
</tr>
<tr>
<td>Arcadia</td>
<td>6 / 6 / 2014</td>
<td>49</td>
<td>6.632</td>
</tr>
<tr>
<td>Messinia</td>
<td>12 / 6 / 2014</td>
<td>11</td>
<td>824</td>
</tr>
<tr>
<td>Argolida</td>
<td>18 / 6 / 2014</td>
<td>1</td>
<td>36</td>
</tr>
<tr>
<td>Korinthia</td>
<td>19 / 6 / 2014</td>
<td>1</td>
<td>251</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td><strong>125</strong></td>
<td><strong>15.486</strong></td>
</tr>
</tbody>
</table>

Morbidity in sheep: 3.33 %
Mortality in sheep: 0.54 %

Goats: 1 animal reported sick (no deaths)
Cattle: sero-conversion of 2 sentinels (2 separate holdings in Lakonia), no signs
Bluetongue emergence in Peloponnisos (Greece) – Measures

Restricted zones (situation as at 2 July 2014)
Bluetongue emergence in Peloponnisos (Greece) – Measures

Restricted zones (situation as at 2 July 2014)
administrative boundaries

Free Areas
Areas within the Protection Zone
Areas within the surveillance zone
Restricted areas due to BT occurrence in past years
Prefecture Boundaries
Measures within restricted zones

In the Protection and Surveillance zones: the measures of Reg (EC) 1266/2007, without making use of the of any of the derogations provided in Reg (EC) 1266/2007 , regarding the ban on the exit of live ruminants. These may only move from the Surveillance to the Protection zone but not vice-versa.

In the 20km –Temporary Control Zone: on top of the above measures, standstill of all ruminant holdings for a maximum of 21 days for each holding. During that period live ruminants may only move for slaughter in slaughterhouses within the same zone. Upon expiry of the 21 days live ruminants can move for other purposes too within the same zone under the same conditions applicable within the same restricted zone (absence of BT clinical signs coupled with insect protection measures in relation to the animals and the transport vehicles).

Other measures

- Insect protection measures applied for all live ruminant movements of any kind within the restricted zones (animals and vehicles)
- Bovine sentinel groups (10 groups of 5 cattle aged 6 months-2 years) formed in each prefecture included in the restricted zones, unless already in place.
- Information campaign for farmers is in progress regarding insect protection
Bluetongue emergence in Peloponnisos (Greece) – Measures

Possible future measures

To...vaccinate or not to vaccinate, that is the question !!!

A complicated question, many factors must be taken into account before deciding:

- The number of vectors is expected to drop within the next months (July – August) due to hot-dry conditions. By then natural immunity could simulate the effect of vaccination.

- Clinical signs remain mild (low mortality –morbidity, some drop in production).

- In the past the country has dealt with BT in the mainland without vaccination.

- Vaccination (e.g. in the area of Peloponnisos) represents a challenging task (1.7 million sheep and goats), that would require extensive planning and considerable resources. A cost – benefit analysis should be conducted in advance.

CONCLUSION: VACCINATION REMAINS AN OPTION BUT IS NOT A PRIORITY FOR THE MOMENT
Open questions

- Mild clinical disease, mortality and morbidity remain low even though this is the first ever incursion of Bluetongue in Peloponnisos.

- Further molecular typing of the virus is in progress at the CRL (Pirbright).

- Disease origin: all scenarios still under investigation

- Note:

  Lakonia (before the recent outbreaks) is one of the prefectures of mainland Greece where sentinel bovines are placed, in the framework of the country’s BT surveillance programme.

  Serology results from these sentinel cattle were steadily negative (latest results available as at mid March and late April- sentinels located in holdings ~25-30 km north of the first outbreak).
Bluetongue emergence in Peloponnisos (Greece) – Latest News

Latest News

- BT suspicion in Achaia
- BT suspicion in Lesvos
Acknowledgements

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All colleagues of the local Veterinary Services of Peloponnisos, Western Greece, Attiki and Central Greece as well as Zakynthos and Kefallonia islands !!!!!!
Thanks for your attention !!!