**Frequency of Resistance to Benzimidazoles of* Haemonchus contortus* Helminths from Dairy Sheep, Goats, Cattle and Buffaloes in Greece**

Konstantinos Arsenopoulos, Styliani Minoudi, Isaia Symeonidou, Alexandros Triantafyllidis, Angeliki I. Katsafadou, Daphne T. Lianou, George C. Fthenakis and Elias Papadopoulos

Table S1. Details of geographical origin of* Haemonchus contortus* helminths from sheep in Greece and results of their susceptibility / resistance to benzimidazoles.

| Region of the country | Local authority | Flocks (n) | Abomasa (n) | H. contortus helminths (n) | Susceptibility / Resistance status of helminths (n) |
|-----------------------|-----------------|------------|-------------|---------------------------|--------------------------------------------------|
|                       |                 |            |             |                           | S / S | R / S | R / R |
| East Macedonia and Thrace | Kavala | 2 | 2 | 4 | 0 | 0 | 4 |
|                        | Rodopi         | 1 | 1 | 2 | 0 | 0 | 2 |
|                        | Xanthi         | 1 | 1 | 2 | 0 | 0 | 2 |
| Central Macedonia      | Kilkis         | 1 | 1 | 1 | 0 | 0 | 1 |
|                        | Pieria          | 2 | 2 | 4 | 0 | 0 | 4 |
|                        | Serres         | 2 | 2 | 4 | 0 | 0 | 4 |
|                        | Thessaloniki   | 7 | 7 | 12 | 0 | 0 | 12 |
| West Macedonia         | Grevena        | 2 | 2 | 4 | 0 | 1 | 3 |
|                        | Kastoria       | 1 | 1 | 2 | 0 | 0 | 2 |
| Epirus                 | Ioannina       | 1 | 1 | 2 | 0 | 0 | 2 |
| Thessaly               | Karditsa       | 3 | 3 | 6 | 0 | 0 | 6 |
|                        | Larissa        | 6 | 6 | 12 | 0 | 0 | 12 |
|                        | Magnisia       | 1 | 1 | 2 | 0 | 0 | 2 |
|                        | Sporades       | 2 | 2 | 3 | 0 | 1 | 2 |
|                        | Trikala        | 1 | 1 | 2 | 0 | 0 | 2 |
| Ionian islands         | Corfu          | 1 | 1 | 1 | 0 | 0 | 1 |
|                        | Kefallonia     | 1 | 1 | 1 | 0 | 0 | 1 |
|                        | Zakynthos      | 1 | 1 | 1 | 0 | 0 | 1 |
| West Greece            | Achaia         | 1 | 1 | 1 | 0 | 0 | 1 |
| Continental Greece     | Evritania      | 1 | 1 | 1 | 0 | 0 | 1 |
|                        | Fthiotida      | 1 | 1 | 2 | 0 | 0 | 2 |
| Region               | Viotia | 1 | 1 | 2 | 0 | 0 | 2 |
|----------------------|--------|---|---|---|---|---|---|
| Attica               | Attica islands | 3 | 3 | 3 | 0 | 0 | 3 |
| Peloponnese          | Arkadia | 1 | 1 | 2 | 0 | 0 | 2 |
|                      | Messinia | 1 | 1 | 2 | 0 | 0 | 2 |
| North Aegean         | Lesvos  | 1 | 1 | 2 | 0 | 0 | 2 |
|                      | Samos   | 1 | 1 | 2 | 0 | 0 | 2 |
| South Aegean         | Kalymnos | 2 | 3 | 5 | 0 | 1 | 4 |
|                      | Paros   | 1 | 1 | 2 | 0 | 0 | 2 |
|                      | Rhodes  | 1 | 2 | 4 | 0 | 0 | 4 |
| Crete                | Iraklion | 1 | 1 | 1 | 0 | 0 | 1 |
|                      | Rethymnon | 1 | 1 | 2 | 0 | 0 | 2 |
| **TOTAL**            |        | 53 | 55 | 96 | 0 | 3 | 93 |
Table S2. Details of geographical origin of *Haemonchus contortus* helminths from goats in Greece and results of their susceptibility / resistance to benzimidazoles.

| Region of the country | Local authority | Flocks (n) | Abomasa (n) | *H. contortus* helminths (n) | Susceptibility / Resistance status of helminths (n) |
|-----------------------|-----------------|------------|-------------|------------------------------|--------------------------------------------------|
|                        |                 |            |             |                              | S / S  | R / S  | R / R  |
| East Macedonia and Thrace | Evros          | 1          | 2           | 2                            | 0      | 0      | 0      |
|                        | Kavala          | 1          | 1           | 2                            | 0      | 0      | 0      |
|                        | Rodopi          | 2          | 2           | 2                            | 0      | 0      | 0      |
|                        | Xanthi          | 1          | 1           | 2                            | 0      | 0      | 0      |
| Central Macedonia      | Chalkidiki      | 2          | 3           | 4                            | 0      | 0      | 0      |
|                        | Kilkis          | 1          | 2           | 2                            | 0      | 0      | 0      |
|                        | Pieria          | 1          | 1           | 2                            | 0      | 0      | 0      |
|                        | Serres          | 2          | 2           | 4                            | 0      | 0      | 0      |
|                        | Thessaloniki    | 2          | 2           | 4                            | 0      | 0      | 0      |
| West Macedonia         | Florina         | 1          | 1           | 2                            | 0      | 0      | 0      |
|                        | Grevena         | 1          | 1           | 3                            | 0      | 0      | 0      |
|                        | Kastoria        | 1          | 1           | 2                            | 0      | 0      | 0      |
| Epirus                 | Ioannina        | 1          | 1           | 1                            | 0      | 0      | 0      |
|                        | Preveza         | 1          | 1           | 2                            | 0      | 0      | 0      |
|                        | Thesprotia      | 1          | 1           | 1                            | 0      | 0      | 0      |
| Thessaly               | Karditsa        | 2          | 2           | 4                            | 0      | 0      | 0      |
|                        | Larissa         | 2          | 2           | 4                            | 0      | 0      | 0      |
|                        | Magnisia        | 2          | 2           | 4                            | 0      | 0      | 0      |
|                        | Sporades        | 3          | 3           | 3                            | 0      | 0      | 0      |
|                        | Trikala         | 2          | 4           | 6                            | 0      | 0      | 0      |
| Ionian islands         | Corfu           | 1          | 1           | 1                            | 0      | 0      | 0      |
|                        | Kefallonia      | 1          | 1           | 1                            | 0      | 0      | 0      |
|                        | Zakynthos       | 1          | 1           | 1                            | 0      | 0      | 0      |
| West Greece            | Achaia          | 1          | 1           | 1                            | 0      | 0      | 0      |
|                        | Aitoloskolarmania | 1        | 2          | 2                            | 0      | 0      | 0      |
| Continental Greece     | Evritania       | 1          | 1           | 2                            | 0      | 0      | 0      |
|                        | Fokida          | 1          | 1           | 2                            | 0      | 0      | 0      |
|                        | Fthiotida       | 1          | 1           | 1                            | 0      | 0      | 0      |
|                        | Viotia          | 1          | 2           | 2                            | 0      | 0      | 0      |
| Attica                 | Attica islands  | 1          | 1           | 2                            | 0      | 0      | 0      |
| Peloponnese            | Arkadia         | 1          | 1           | 2                            | 0      | 0      | 0      |
|                        | Laconia         | 1          | 1           | 2                            | 0      | 0      | 0      |
| Location      | Lesvos | Samos | Kalymnos | Paros | Syros | Rhodes | Iraklion | Rethymnon | TOTAL |
|--------------|--------|-------|----------|-------|-------|--------|----------|-----------|-------|
| North Aegean | 2      | 1     | 3        | 2     | 1     | 2      | 1        | 1         | 5     |
| South Aegean | 3      | 1     | 5        | 2     | 2     | 3      | 1        | 2         | 10    |
| Crete        |        |       |          |       |       |        |          | 1         |       |
|              |        |       |          |       |       |        |          | 2         |       |
| TOTAL        | 55     | 63    | 96       | 0     | 0     | 0      | 0        | 0         | 96    |
Table S3. Details of geographical origin of *Haemonchus contortus* helminths from cattle in Greece and results of their susceptibility / resistance to benzimidazoles.

| Region of the country          | Local authority | Flocks (n) | Abomasa (n) | H. contortus helminths (n) | Susceptibility / Resistance status of helminths (n) |
|-------------------------------|-----------------|------------|-------------|---------------------------|-----------------------------------------------------|
|                               |                 |            |             |                            | S / S | R / S | R / R |
| East Macedonia and Thrace     | Kavala          | 2          | 2           | 3                         | 0     | 2     | 1     |
|                               | Rodopi          | 3          | 3           | 6                         | 0     | 4     | 2     |
|                               | Xanthi          | 1          | 1           | 2                         | 0     | 1     | 1     |
| Central Macedonia             | Chalkidiki      | 1          | 1           | 2                         | 0     | 2     | 0     |
|                               | Imathia         | 1          | 1           | 2                         | 0     | 2     | 0     |
|                               | Serres          | 2          | 2           | 4                         | 0     | 4     | 0     |
|                               | Thessaloniki    | 5          | 5           | 8                         | 0     | 8     | 0     |
| West Macedonia                | Kozani          | 1          | 1           | 1                         | 0     | 1     | 0     |
| Epirus                        | Ioannina        | 1          | 1           | 2                         | 0     | 2     | 0     |
|                               | Preveza         | 1          | 1           | 2                         | 0     | 2     | 0     |
| Thessaly                      | Karditsa        | 1          | 2           | 2                         | 0     | 0     | 2     |
|                               | Larissa         | 2          | 2           | 2                         | 0     | 0     | 2     |
|                               | Magnisia        | 1          | 1           | 2                         | 0     | 0     | 2     |
|                               | Trikala         | 1          | 1           | 2                         | 0     | 0     | 2     |
| North Aegean                  | Lesvos          | 1          | 1           | 2                         | 0     | 2     | 0     |
| South Aegean                  | Naxos           | 1          | 3           | 6                         | 0     | 6     | 0     |
| **TOTAL**                     | **25**          | **28**     | **48**      | **0**                     | **36** | **12** |
Table S4. Details of geographical origin of *Haemonchus contortus* helminths from buffaloes in Greece and results of their susceptibility / resistance to benzimidazoles.

| Region of the country | Local authority | Flocks (n) | Abomasa (n) | *H. contortus* helminths (n) | Susceptibility / Resistance status of helminths (n) |
|-----------------------|-----------------|------------|-------------|-----------------------------|-----------------------------------------------------|
|                       |                 |            |             |                             | S / S | R / S | R / R |
| **Central Macedonia** | Pieria          | 2          | 4           | 8                           | 0     | 8     | 0     |
|                       | Serres          | 6          | 11          | 22                          | 0     | 22    | 0     |
|                       | Thessaloniki    | 4          | 7           | 14                          | 0     | 14    | 0     |
| **Thessaly**          | Trikala         | 1          | 2           | 4                           | 0     | 0     | 4     |
| **TOTAL**             |                 | **13**     | **24**      | **48**                      | **0** | **32**| **4** |