

## 7. SUMMARY

The aim of this study was to characterize *Ehrlichia/Anaplasma* species in cattle and ticks. For this purpose a total of 679 blood and 186 tick samples were regularly collected in every three months period from Osmanbükü, Akçaova, Dalama and Söke districts of Aydın during June, September, December 2006 and March 2007.

Following DNA extraction from ticks and blood samples, genus and nested PCR was performed to determine *Ehrlichia/Anaplasma* species in DNA samples. According to genus PCR results 13 out of 179 samples collected from Osmanbükü, 92 out of 182 samples collected from Söke, 96 out of 151 samples collected from Dalama and 126 out of 167 samples collected from Akçaova were *Ehrlichia/Anaplasma* genus positive. According to nested PCR results, performed using species specific primers, 2, 0, 7, 7 in Osmanbükü, 2, 2, 80, 75 in Söke, 42, 12, 46, 64 in Dalama and 3, 14, 87, 91 in Akçaova districts were positive for *A. marginale*, *A. centrale*, *A. bovis*, *A. phagocytophilum*, respectively. PCR results obtained from DNA samples extracted from ticks showed that 4, 1 and 5 samples were positive for *A. marginale*, *A. bovis*, *A. Phagocytophilum*, respectively. Positive samples were cloned into PCR4/TOPO vectors and send for sequencing.

PCR results showed that *A. bovis* was most abundantly seen in blood samples collected from Söke during March. *A. phagocytophilum* was intensively seen in Akçaova during March. *A. marginale* species were mostly seen in blood samples collected from Dalama during September. Finally, *A. centrale* was intensively seen in Akçaova in December. This study describes the first molecular detection of *A. bovis* in Turkey.

**Key Words:** Aydın Region, Tick, Cattle, *Anaplasma bovis*, *Anaplasma marginale*, *Anaplasma centrale*, *Anaplasma phagocytophilum*, PCR.