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REGIONAL VARIATION IN *ACETYLCHOLINESTERASE* ACTIVITY AND TOTAL PROTEIN IN THE BRAIN AND HYPOPHYSES OF LARGE WHITE BOARS MANAGED UNDER A HOT HUMID ENVIRONMENT

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ABSTRACT

The regional variations in acetylcholinesterase (AChE) activity and total Protein in the brain and hypophyses of Large White pigs were determined. AChE activity was highest ($P<0.05$) in the mid-brain, followed by the medulla oblongata and the amygdala while it was lowest ($P<0.05$) in the cerebral cortex, followed by the cerebellum, the hippocampus and the pons. In the adenohypophyses and neurohypophyses. AChE activity was similar to that observed in the cerebral cortex. Total protein values in the cerebellum, medulla oblongata, adenohypophyses, hypothalamus and the pons were similar and significantly ($P<0.05$) different from the values obtained for the mid-brain, hippocampus and amygdala, which also had similar, total protein. The cerebral cortex and neurohypophyses had the lowest ($p<0.05$) total protein. As expected, specific AChE activity was highest in the mid-brain, amygdala and pons. The lowest values were recorded in the hypophyses and cerebral cortex while the cerebellum, hippocampus, hypothalamus and medulla oblongata displayed average activity levels. This study showed that AChE and total protein are differentially concentrated in various brain regions. This thus indicates the different functions performed by the different areas of the brain and hypophyses.

Keywords: Acetylcholinesterase, total protein, boars, brain, hypophysis.