

**EFFECTS OF EXPERIMENTAL THYROXINE, INSULIN AND  
HYDROCORTISONE TREATMENT ON PANCREATIC  
EXOCRINE FLOW AND COMPOSITION IN DOMESTIC RABBIT**

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**SUMMARY**

The secretory response of the exocrine pancreas has been studied in rabbits submitted to thyroxine, insulin or hydrocortisone treatments. Pancreatic exocrine response was induced by secretine. Thyroxine and insulin treatments increased basal levels of pancreatic juice flow, protein output and amylase activity. These levels were risen several fold by the secretine stimulation. Hydrocortisone treatment decreased basal levels of pancreatic juice flow, protein output, amylase and trypsin activities. Secretine did not significantly modify the pancreatic exocrine response in hydrocortisone treated rabbits. In contrast, hydrocortisone decreased the amylase activity in the pancreatic tissue. Trypsin activity was increased in the pancreatic protein extracts from the thyroxine treated rabbits and it was decreased under the influence of the insulin treatment. The hydrocortisone treatments increased the serum concentrations of glucose and lipids, which is not correlated with the pancreatic exocrine response. The physiological implications of these findings are considered. It is concluded that thyroxine, insulin and hydrocortisone treatments modify the secretion and/or release of pancreatic enzymes in rabbits.

## **MODIFICĂRILE UNOR PARAMETRII FIZIOLOGICI LA GĂINILE SUSSEX ÎN CONDIȚII VARIABLE DE TEMPERATURĂ**

### **CHANGES IN SOME PHYSIOLOGICAL PARAMETERS IN SUSSEX HENS UNDER VARIABLE CONDITIONS OF TEMPERATURE**

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#### **REZUMAT**

S-au urmărit modificările unor parametri fiziologici la găinile din rasa Sussex în condițiile expunerii acestora la 20-22°C și la 35-38°C timp de 30 minute și apoi trei ore. Experimentul s-a efectuat pe 30 găini ouătoare în vârstă de 40 săptămâni întreținute în condiții standard. S-a constatat că în condițiile unei temperaturi de 35-38°C la o expunere de 30 minute s-a realizat fenomenul de acomodare cu creșterea contractilității miocardului de 13,2% pentru unda P și 68,1% pentru unda R; frecvența cardiacă a crescut cu 26 de cicluri. Prin prelungirea stresului termic la trei ore, organismul păsării intră în faza de adaptare prin diminuarea contractilității cordului, frecvența cardiacă scăzând cu opt cicluri. Frecvența respiratorie, temperatura pielii și cea rectală au crescut progresiv odată cu timpul de expunere la stresul termic ( $p < 0.05$ ).

#### **SUMMARY**

The changes in some physiological parameters were monitored in Sussex hens exposed to temperatures of 20-22°C and 35-38°C for 30 minutes and then for three hours. The experiment was conducted on 30 laying hens, aged 40 weeks, kept under standard conditions. It was observed that under the conditions of exposure for 30 minutes at 35-38°C, the layers increased the contractility of myocardium by 13,2% for P wave and by 68.1% for R wave, while heart beat increased by 26 cycles, getting therefore accommodated to the new conditions. When the heat stress was prolonged to three hours, the bird organism got adapted by decreasing the heartbeats with eight cycles. Respiration frequency, skin temperature and rectal temperature increased progressively with the time of exposure to heat stress ( $p < 0.05$ ).