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KEY WORD: : SOFTSHELL TURTLE / *Amyda cartilaginea* / HATCHING RATE / HUMIDITY / WHITE SPOT

WACHIRA KITIMASAK : EFFECT OF HUMIDITY ON HATCHING RATE AND EFFECT OF FOOD-TYPE ON GROWTH RATE OF ASIATIC SOFTSHELL TURTLE *Amyda cartilaginea* HATCHLINGS. THESIS ADVISOR: ASSISTANT PROF. KUMTHORN THIRAKHUPT, Ph.D. 100 pp. ISBN 974-636-811-7

A comparative study on the effect of humidity on hatching rate of Asiatic softshell turtle, *Amyda cartilaginea* eggs was conducted using hatching materials with 7 different humidity levels (5-50 %) in closed plastic boxes. It was found that the hatching rate was highest (35.15%) at 30 % humidity. The range of hatching period was between 74 to 95 days and was not significantly different among all humidity levels. Temperatures outside hatching boxes were not significantly different from those inside the boxes but were significantly different from those of the hatching materials at all humidity levels ( $p \leq 0.05$ ). There were correlations among body length, width, height and weight of their mothers, but all these characteristics were not correlated to the number, size and weight of eggs. The only correlation found between eggs and hatchlings was their body weights ( $r=0.65, p \leq 0.05$ ). An egg with developing embryo could be visually distinguished by a white spot at the apical area of the egg which could be seen within 48 hours after laying.

During a 13-week study period on the effect of food types, it was found that the Asiatic softshell turtle's growth, on weekly basis, in terms of body width, length and weight was not significantly different when fed with softshell turtle food and food for carnivorous fish. The softshell turtle fed more at 8.00 a.m. than 4.00 p.m. and the amount consumed during 7- day period on both food types was not significantly different. However, the Fc. ratio in the group fed with softshell turtle food was lower. Survival rate after 13-week study was 100% on both experiments.

It should be noted that this study uses a hatching technique in a closed plastic box. This is to facilitate a constant humidity level which was adjusted to the desired level only once at the beginning of the experiment. The materials used were selected because of its suitability high availability and low investment. In addition, hatchlings were individually reared in order to prevent them from attacking each other and from disease transmission. The result of this study may serve as a guideline for conservation as well as economics management of the softshell turtle in the future.

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