

INDUCED MOLT

by

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For some time falconers have discussed the idea of induced molt. Various methods including photoperiod changes and hormone administration have been tried. In our short reading, however, we have never seen anyone write that they were completely satisfied with any particular method. We have not seen any statistics on how long these induced molts take. Lacking comparisons here are the results of our experiment with eastern Kestrels (*Falco sparverius*).

Assuming that wild birds behave as captive ones, the female bird begins her molt almost simultaneously with the onset of incubation. The male's molt is delayed somewhat and from our experience seems to hinge on the brooding of the female. In one experiment in which our female brooded her eggs for only five days, her molt started and progressed normally after her short brood ended, but the male did not molt until he was induced artificially three months later. By this time the female had completed over half her molt.

The female's molt was, to our knowledge, normal. She lost her flight feathers symmetrically, and each replacement was almost entirely in place before the adjacent old feathers were dropped.

The male's molt was quite different and was initiated by a reduction in photoperiod from 16 hours daylight and eight hours darkness to four hours daylight and 20 hours darkness. Five days after the start of this cycle he lost his first tail feather. Fifteen days later he was virtually grounded, having to jump from perch to perch and to the food block. Three days after that he had lost another primary from each wing, leaving him only two primaries on each.

At this time we switched to eight hours of daylight and 16 hours of darkness in order to promote feather growth. No change in the diet of mice and chicks was ever made.

The male's feather growth was as entire as his molt. All the tail and wing feathers grew simultaneously—just as they had dropped. Two months following the onset of his molt the male had a complete complement of new feathers. All of his tail feathers were the same length, while the outer-most tail feather of the female on both sides still lacked about one half inch of being even with the others.

The female's molt seemed to be hastened by increased darkness also, but as she had already been molting three months, it was impossible to tell if hers would have been as dramatic as the male's.