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ESTABLISHING RAPID FEATHERING IN CHICKENS PAUL D. STURKIE, Associate Poultry Husbandman

Advantages of Rapid Feathering

The main disadvantage of the slow-feathering character in certain broiler breeds is the presence of pinfeathers, and in some cases bare backs, at ages when the broilers are marketed. In breeds carrying the rapid rate of feathering, such is not the case. It has been demonstrated also that rapid-feathering birds usually grow faster than slow-feathering ones.

Slow- and Rapid-Feathering Breeds

White and Barred Plymouth Rocks, White Wyandottes, Jersey Black Giants and most Rhode Island Reds are slow feathering breeds. White and Brown Leghorns, Anconas, and others of the Mediterranean class are rapid-feathering breeds. The New Hampshire Red, while usually considered a rapid feathering-breed, may show considerable variation with respect to rate of feathering. Some strains of New Hampshires are rapid feathering, some may be slow, and many of them carry both the rapid- and slow-feathering characters. This means that from a given mating of New Hampshire Reds, both rapid- and slow-feathering offspring may be obtained.

By making the appropriate crosses, the rapid or the slow characters may be incorporated into any breed.

Detecting Rapid- and Slow-Feathering Chicks at 10 Days of Age

The difference in the rapid- and slow-feathering characters can be observed best in chicks at 10 days of age. At this time the primary and secondary wing feathers and particularly the tail feathers (not down) of the rapid-feathering chick are usually well developed, whereas the tail feathers of the slow chick have not made their appearance and the primaries and secondaries are developed to a lesser extent (see diagram on page 2). Where only one or two tail feathers are present in 10-day chicks, they should be considered as slow-feathering chicks. At later stages of development, about 6 to 8 weeks of age, the difference in degree of body feathering may also be observed in many cases.

It is possible for an experienced observer to classify with a high degree of accuracy the rapid- and slow-feathering chicks at hatching time, but for the inexperienced observer, this practice is not recommended.

Establishing a Rapid-Feathering Strain



Rapid Feathering Slow Feathering

Ten-day-old Chicks Showing Rapid and Slow Feathering of Wings and Tails

linked character and that slow-feathering is dominant to rapid feathering.

In order to establish rapid feathering in a breed, it is necessary for the breeder to understand the manner in which rate of feathering is inherited. This is illustrated by the four types of matings, which are given here. The different possibilities as to number of rapid and slow offspring that may be expected from each of these four crosses are listed under (a) and (b). The results of these crosses demonstrate that rate of feathering is inherited as a sex-

1. Slow male X Slow female may produce the following types of chicks:
 - (a) All slow feathering
 - (b) All male progeny slow feathering, and 1/2 of females rapid feathering
2. Slow male X Rapid females
 - (a) All slow feathering
 - (b) 1/2 of males and females slow, 1/2 of them rapid.
3. Rapid male X Slow females
 - (a) All males slow and all females rapid.
4. Rapid male X Rapid females
 - (a) All males and females rapid.

It is clear from the results of cross (4) that, to establish the rapid character, the breeder has only to classify the 10-day-old chicks to detect the rapid feathering ones and to use these as breeders when they reach maturity, since they will breed true for the character.

For instance, if all of the females produced from a given mating are slow feathering and these females are considered desirable as breeders from the standpoint of egg production, viability, and other characters, they may be used as such, provided they are mated to rapid feathering males (cross 3). Such a mating will produce slow males and rapid females. The rapid females may then be mated to rapid males the next breeding season (cross 4) and all of the resulting progeny will be rapid feathering.