

Oscar Grow (1972) takes the credit for developing and naming the **Pilgrim Goose**. He may indeed be right. How he developed it is not explained in any detail but it is likely that birds were selected from the melting pot of European breeds eventually imported into America. *Anser anser* is not indigenous to America in any numbers, so it is likely that the developed domestic breeds would have been imported originally. What he does proclaim is interesting:

‘The mating of white ganders to gray geese produces predominantly white progeny and can never found a strain with sex-linked colour.’

This hypothesis fits with Jerome’s conclusions (1959) that the spot gene (sp/sp) is sex-linked. Unfortunately, he got it wrong. ‘Spot’ is autosomal. So if a white gander (dilution plus spot) is crossed with a wild-colour grey female the F<sub>1</sub> offspring will be largely heterozygous:

|        |                    |                     |
|--------|--------------------|---------------------|
| Male   | Sd/sd <sup>+</sup> | Sp <sup>+</sup> /sp |
| Female | Sd/—               | Sp <sup>+</sup> /sp |

Using a Punnett Square for inbreeding from the two F<sub>1</sub> above, one gets 16 possible outcomes (several duplicated) that include **one male Pilgrim** (Sd/Sd Sp<sup>+</sup>/Sp<sup>+</sup>) dilution but no spot) and **one female Pilgrim** (Sd/— Sp<sup>+</sup>/Sp<sup>+</sup>). Additionally, other than spot heterozygotes, there a **pair of pure white** (dilution with spot), a **grey female** (no dilution and no spot) and a **female grey-back** (spot but no dilution). In other words, it IS possible to develop Pilgrims from mixed flocks by careful selection. That would be quite laborious, largely because of the recessive nature of the spot gene and the incomplete dominance of the dilution gene. Heterozygous spot can be completely hidden in some birds and partially expressed in others.

Using a grey male to a white female is also possible but slower.

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#### References

Grow, O. *Modern Waterfowl Management and Breeding Guide*—American Bantam Association 1972 (fifth printing 1994)

Jerome, F.N. *Colour Inheritance in Geese*—Can. J. Cytol. 1. 1959, pp 135-141