Red Wattle Hogs – Pedigree Analysis and Breeding Recommendations

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Introduction

For this study, there were 2,283 red wattles with registration data. The early data, from 1984-1998, was a collection of records from the Wengler, Prentice and Animal Research Foundation (ARF) registries. Later records, from 1999 to the present are from the Red Wattle Hog Association. The early records were used to establish a pedigree, but analysis for this study concentrates on the 1,932 pigs registered from 1999 to 2013. The pigs registered in 2014 were excluded from the study because it was not a complete year of data. The purpose of this study was to monitor the health of the breed by investigating trends in registration and inbreeding.

Breed overview

The Red Wattle Hog Association was founded in 2000 by registering animals born in 1999 and 2000. Since the creation of the association, 173 unique breeders have registered their red wattle pigs. 63 breeders are still considered active, having registered pigs in 2013 or 2014. Of the 173 breeders, only 32 have registered for more than 3 years with breeders registering on average for 2.83 years. The numbers of breeders registering their pigs over the years has risen dramatically.
The number of pigs registered per year has also increased with the most registered pigs born in 2012, 288 pigs.

The level of inbreeding is rather inconsistent, but overall there is an increasing trend. The average coefficient of inbreeding was 9.11% from 1999-2013. The main factor affecting the change in the coefficient of inbreeding by year seems to be the large numbers of pigs registered by individual breeders with a high degree of inbreeding in their herds. There is still room for improvement. A good method to lower the coefficient of inbreeding is to refrain from mating brother and sister, mother and son, and father and daughter.
In general, the population seems to be healthy. The high number of breeders registering their pigs and the overall number of pigs is encouraging. It would be beneficial to the registry if breeders continue to register for more than 3 years. Clyde Grover is the only breeder that registered consistently from 1999 – 2013.

It would also be beneficial to the genetic diversity of the population if the level of inbreeding decreased. The inbreeding coefficient ranged from 0 to 40% depending on the breeder with 32 of the 173 breeders having an inbreeding coefficient of 0% and 54 having an inbreeding coefficient of greater than 10%. Of the 63 breeders still active, having registered in 2013 or 2014, the average coefficient of inbreeding was 9.36%. It is possible to reduce this number by using different breeding strategies. For information on breeding practices that minimize the level of inbreeding in any size of herd, refer to the book Managing Breeds for a Secure Future: Strategies for Breeders and Breed Associations by Dr. Phillip Sponenberg and Dr. Donald E. Bixby.

The original Wengler line was bred with the Prentice line in about 1984, before the founding of the RWHA registry in 1999. Among the animals first registered, crossing between the two lines was clearly being done on most farms, so it seems unlikely that any pure Prentice or pure Wengler lines are still in existence. More information about maintaining bloodlines can be found in the article Bloodlines Within Breeds, by Dr. Phillip Sponenberg, published in the RWHA Winter 2013-14 Newsletter.