

Breeding and developing a Wagyu herd

There are many producers who have used Wagyu bulls or who have Artificially Inseminated (AI) many of their commercial animals with Fullblood or Purebred Wagyu semen and are looking at the opportunity to grade up over time to become a purebred herd or to remain a commercial herd but command a premium price for their cattle that then may have a higher than 50% Wagyu content. This article describes the process that producers can follow to either breed to a Fullblood or Purebred Wagyu herd, remain a commercial producer, or probably both. A separate article will describe the “type” of Wagyu that you may be interested in breeding.

1) Difference between Fullblood and Purebred

Fullblood animals trace their lineage, uninterrupted, through their pedigrees directly back to an ancestor in Japan. They are thus 100% pure Wagyu genetics and are thus considered to be part of “the original stock”. In the Wagyu seedstock industry there is still a significant monetary value associated with being a breeder of Fullblood Wagyu cattle. This was also the case when all British and European breeds were exported out of Britain and Europe at the turn of the previous century. Aberdeen Angus, for example, was exported from Scotland to the USA and Simmental into Africa. Australia is the largest source of Fullblood Wagyu outside of Japan while the USA has the largest population of Purebred Wagyu. A total of 100 000 cattle is joined annually to Wagyu sires in Australia,

2) Starting a Fullblood herd

A Fullblood herd is bred by:

- a. Purchasing Fullblood Wagyu bulls or semen and using them on Fullblood cows. Fullblood cows can be purchased at many of the production sales being held across the country or at the Society’s annual National Sale.
- b. With an embryo transfer program using normal commercial cows as recipients and Fullblood cows inseminated with the semen of Fullblood bulls as donors.

There are three AI/Embryo stations in South Africa that are partners of the Society. These are:

Embryo Plus <http://www.embryoplus.com/>

In Vitro Africa <http://invitroafrica.com/>

Ramsem: <http://www.ramsem.com/>

Fullblood Embryos can either be sourced from an Embryo station or imported directly from countries such as the USA and Australia. The Embryo stations in South Africa are well equipped to assist with procuring embryo’s and to assist prospective producers with their embryo and AI programs. The Livestock Registering Federation (LRF), in partnership with the Wagyu Society also assists producers with imports of Semen and Embryos (www.wagyu.org.za). Look for Resource Centre/Forms.

3) Starting a Purebred seedstock (stud) herd

The Animal Improvement Act (Act Nr. 62 of 1998) determines that Seedstock(stud) animals can only be bred through registering / recording such animals through the official body designated for that purpose by the Act. In the case of Wagyu cattle that body is the Wagyu Society of South Africa. The

task of the Society is to look after the interests of the breed, the breeders and to collectively promote the breed. The South African Wagyu Society received official recognition in 2014.

- The first option for starting a Purebred herd is to purchase Purebred females from other breeders. These females are often in calf from a Purebred or Fullblood bull. The advantage of this option is that you start breeding Purebred Wagyu's from the first calf crop.
- A grading-up program is also a commonly accepted way to "breed up" to a Purebred herd. This process will take four generations of breeding if starting from scratch with commercial cattle. Only registered (by the Society) Fullblood or Purebred bulls can be used for breeding, either *via* natural mating or *via* the use of semen of approved bulls on cows in the upgrading program. The progeny of such bulls on commercial cows are eligible to become first generation (F1) animals; the progeny of qualifying bulls on first generation (F1) heifers and cows are eligible to become second generation (F2) animals; similarly, the progeny of qualifying bulls on second generation (F2) females are eligible to become third generation (F3) animals; and finally the progeny of third generation (F3) females can be used to breed what is known as Purebred animals (in theory F4's). As per the illustration below and by definition, a Purebred Wagyu can never be a 100% Fullblood, but will be breeding 93+% purebred Wagyu's by the fourth generation.

Wagyu Breed Classification

Wagyu Classification	Definition
Wagyu Fullblood 100%	The offspring of a Wagyu Fullblood sire and a Wagyu Fullblood dam whose forebears originate from Japan and whose pedigree shows no evidence of any crossbreeding.
Purebred Wagyu F4 93+%	Has greater than 93% ($\pm 5\%$) Wagyu genetic content. For example, the result of at least four generations of upgrading using a Wagyu Fullblood or Purebred sire – the progeny of a Fullblood or Purebred Wagyu bull and a Wagyu F3 dam.
Crossbred Wagyu F3 87+%	Has greater than 87% ($\pm 5\%$) Wagyu genetic content. For example, the result of at least three generations of upgrading using a Wagyu Fullblood or Purebred sire – the progeny of a Fullblood or Purebred Wagyu bull and a Wagyu F2 dam.
Crossbred Wagyu F2 75%	Has greater than 75% ($\pm 5\%$) Wagyu genetic content. For example, the result of at least two generations of upgrading using a Wagyu Fullblood or Purebred sire – the progeny of a Fullblood or Purebred Wagyu bull and a Wagyu F1 dam.

Crossbred Wagyu F1 50%	Has 50% ($\pm 5\%$) or higher Wagyu genetic content. For example, the first generation of upgrading using a Wagyu Fullblood or Purebred sire and the dam of another breed.
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4) Breeding a commercial Wagyu herd

A significant proportion of producers simply want to breed commercial animals and reap the benefits of breeding with Wagyu's without the additional effort to register the animals through the Society. To breed a commercial herd requires a Fullblood or Purebred bull (or semen of such bulls) to obtain the F1 progeny. Commercial producers can then decide themselves if they want to breed F2 and F3 animals for the feedlot market.

Note that all commercial producers will be strongly encouraged to be part of the Society's Wagyu Quality Assurance program (WQA). The definition of a WQA-animal is any animal sired by a WSA registered sire (Fullblood or Purebred and see Wagyu Classification Description above), thus an animal with at least 50% Wagyu breed content (maximum variation of 5%), a minimum Marbling Score of 3, hormone free, all males castrated prior to 5 months of age and ethically produced as per the Society's protocol.