M8(Mate) on pedigree:

A new unbiased practical tool to help farmers prevent for inbreeding.

Breeding for healthy and vital dairy cows starts with selecting bulls that meet up these goals by breeding values for effecting genetic traits. When mating individual cows farmers should prevent to mate closely related animals resulting in negative effects of inbreeding.
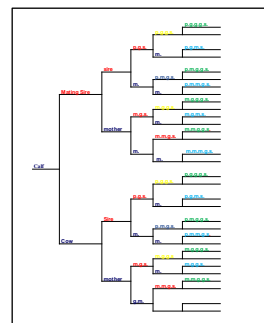
The number of available bulls with corresponding data is enormous and time to study individual pedigrees to be able to make correct individual mating's is limited. As statistics show us, the chance of mating your individual cows to a closely related bull within the same breed is likely, causing a higher risk on embryonic death (Haplotypes effecting fertility) and genetic defects.

M8 on pedigree is a practical tool to provide dairy farmers with individual mating recommendations that will not lead to higher inbreeding levels and will exclude matings of possible cariers of genetic defects and Haplotypes. As it not owned or developed by a semen selling company, it is objective in mating recommendations!

Working with M8 on pedigree: Individual cow data is based on a 3 generation pedigree; meaning Sire, MGS and MMGS. If one of these bulls is known for carrying a genetic defect or Haplotype that can cause embryonic death, the cow will be labelled as suspicious. When optional mating-bulls carry a known genetic defect or Haplotype, they will be excluded for recommendations to individual cows labelled as suspicious for the same genetic defect of Haplotype. Resulting in a positive effect on herd fertility and pregnancy rates.

For effective mating recommendations, a limited group of bulls must be selected matching the farm-specific breeding goal.

In the mating process, the pedigree check level in the software is set, starting from 5 full generations. This includes a check of 30 sires in the pedigree of the 'future calf'! The pedigree check level can be set to different levels, descending to a minimum of 9 parents to be checked. When the same bull appears on both sides of the individually checked pedigree the mating bull will be excluded for that individual cow. This way the relationship of the bulls recommended will never be very close, and the inbreeding level will be preferably low. Options in the program:

- Individually set minimum levels for production traits: milk, % fat or % protein.
- Only allow Calving Ease bulls to be used in mating recommendations to virgin heifers.
- Individually allow mating's on coat color, such as Red coated bulls only mated to Red coated cows.

The order of the recommended bulls (maximum of 3) to each cow will be effected by the setting of 'Tie Breaker', which will sort the optional bulls in order of the highest genetic level of the chosen trait. Many trait options to set the 'Tie Breaker', such as TPI, NM$, kg. Milk, kg. protein, PTAT, F&L, SCS, DPR or PL.

Using **M8 on pedigree**, farmers will save time using the individual mating recommendations for mating's that will lead to more vital cows, as they don't have to worry about inbreeding effects and therefore **maximize the effect of genetic selection to improve their herd**.

M8 on pedigree is developed by Peek Onafhankelijk Fokkerijadvies and UNIFORM-Agri.