Neonatal and pediatric mortality in puppies before 2 months of age is estimated at 16%, (Chastant-Maillard et al., 2017 Reprod. Domest. Anim. 52, 158-162), being an important source of economic loss for dog breeders but also a major welfare issue in breeding kennels. Majority of puppies (90%) die during the pediatric period (the first three weeks of life; (Nielen et al., 1998 Vet Rec 142, 602-606), i.e. during the period of a complete dependency from the mother. Although mothering ability of the bitch is pivotal for the optimal development and survival of its puppies, it has been poorly studied and it does not take part of the routine selection criteria of bitches or sires. Indeed, it has been demonstrated in other domestic species, such as bovine or porcine, that the selection according to the mothering ability is a good way to improve the number animals for sale.
The final objective of the thesis is to identify a reliable (also possible to be implemented by breeders) method of bitch selection according to its mothering ability (i.e. the ability to raise a maximum of puppies until the age of 8 weeks, age at sale).

The objectives of the different parts of the thesis are:

1. To characterize the importance of mothering abilities of bitches and their consequences for dog breeders.
2. To evaluate the interest of phenotypic selection, based on the reproductive performances in previous whelpings (repeatability).
3. To evaluate the interest of genetic selection via inbreeding control (of the selected female or of the matched couple) and via heritability of the mothering abilities.
4. To evaluate the prediction of the mothering abilities via genomic analysis.

All the details of the here presented studies are available on the Doctoral School official website (https://ed-sevab.univ-toulouse.fr/as/ed/edsevab/entree.pl / Doing a PhD / Thesis subjects / Thesis subjects proposals) and on the NeoCare website (www.neocare.pro).

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CONDITIONS OF THE DOCTORAL FELLOWSHIP PROGRAM

This fully funded graduate program is open for candidates with a master's degree. Students having a diploma equivalent to the master's degree (veterinary surgeons, engineers, etc.) must request a derogation from the Doctoral School before 15th of June 2020. Only one person will be selected by the supervisor to defend the project in front of the Doctoral School board. Interested candidates must send a CV and a motivation letter by 15th of May 2020 on the following e-mail address: sylvie.chastant@envt.fr.

The candidates submit all demanded documents on the official website of the Doctoral School by 10th of June 2020. Only subjects and candidates selected by the board of the Doctoral School after 15th of June, will present their projects (oral presentation of 25 minutes) on 7th and 8th of July 2020 at the final stage of the fellowship program selection (ENSAT, Castanet-Tolosan, France). If accepted, the candidate will receive a scholarship during three years of the thesis (1 769 euros of gross salary per month).

All the details of the doctoral fellowship program are available on the official website of the Doctoral School (in French; https://ed-sevab.univ-toulouse.fr/ Doing a PhD thesis / Information entry exam).