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Use of innovative and precision tools in research stations with small ruminants: the INRAE case

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An extensive survey was carried out in experimental units (**EU**) of **INRAE** using small ruminants (**SR**) as animal model, to get insights in current and historical uses of innovative technologies in their facilities, and staff viewpoints. Eleven EU use SR in INRAE (in France and overseas); 8 were visited in 2022 (addresses in the abstract; 3 with sheep -2 meat, 2 both meat and dairy-; and 3 with dairy goats). A detailed questionnaire was prepared. A total of 58 technologies were inventoried. From that, ~24% (n= 14) are invented or co-produced by INRAE, from which 7 are appreciated i.e. automate weighing device (Baléa); sorting gates (3 exits); **DH20** (water consumption monitoring and weighing indoor); **DAC** (automatic distributor of concentrate); **DAF** (automatic distributor of forage); *Gély* test tube (individual milk yield monitoring); and Walk-over- Weighing (**WoW**). Five tools are used by 100% of EU i.e. EID for individual identification; Baléa for weighing; **PDA** (Personal Digital Assistant); temperature and humidity sensors (mandatory); and sorting gates. Interviewed staff are favourable to techs' use, but mostly for research purposes and they unanimously agreed in positive effects to alleviate workload and routine. Internet connectivity was revealed however as a serious constraint in certain areas. Four techs are recommended for farmers, recognising price may limit adoption: conveyor belt for feeding supply indoor; mixer (with tractor) for preparing total mixed rations; milk tank weighing; *Combi clamp* (to ease handling). The P3R EU is the best example of phenotyping EU with promising and effective techs for both research and management purposes. Information will be completed, with further upcoming visits to 100% of EUs.

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