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The collection of blood to monitor circulating concentrations of metabolites is an important tool for research to better describe the nutritional and health status of animals. In pigs, venepuncture requires the animal to be restrained, which can be stressful and painful, and large veins are also not very visible which complicates the procedure. An alternative is catheterization, but this involves a surgical procedure which induces an inflammatory response that can mask certain metabolic responses, and needs the housing of pigs in isolated pens. This study aimed to test alternative blood collection procedures and associated scaled down methods to assess circulating metabolites in growing pigs. In Exp 1, four blood collection methods were tested in pigs (n=6 females, 61 kg body weight): (1) catheterization; (2) venepuncture with the aid of a handheld infra-red imaging tool; (3) ear pricking with a lancet to collect drops of blood in filter papers; and (4) blood sucking *Dipetalogaster maxima* parasites. Blood collection was done at four time points using each method in a randomised order after feeding the pigs a liquid glucose meal. Methods were compared for the relative ease of collection, animal stress indicators, and obtained concentrations of cortisol and glucose. In Exp 2, glucose sensors with an intradermal needle were secured on the neck of pigs (n=8 females, 50 kg body weight); pigs were also equipped with a jugular catheter to serve as a control. Circulating glucose concentrations analysed by the sensor were obtained during five days with two diets (high starch then a high fat). Both basal concentrations and postprandial glucose curves during four hours after two meal test procedures were also compared with those obtained by blood sampling through the catheter. Ongoing laboratory and data analysis will reveal the best suitable approach in minimising the negative impact of blood collection in pigs used in experimental research. The PIGWEB project has received funding from European Union's Horizon 2020 under Grant Agreement No 101004770.

Development of protocols for standard management and recording in pig research facilities

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European pig research infrastructures have different focus areas, but share common challenges. All perform basic pig management and often the same standard traits are recorded, providing possibilities for (improvement of) standard operating procedures (SOPs) within and across facilities. Researchers are not always aware of SOPs and their impact on the quality of their studies and data, while facility staff might not be fully aware of the potential impact of deviation from standard procedures. To safeguard good research and data quality, this awareness needs to be improved in all involved parties In the PigWeb project, one of the aims is to improve and harmonise protocols for standard management and recording in pig experimental facilities of eight partners in the network. The process to reach this aim included three main steps: (1) Identification of key areas of standard management and recording; (2) Development of improved protocols based on compilation of current practises, and (3) SWOT analyses on implementation of improved protocols. We conclude that procedures varied between facilities but key areas with potential for improvements and harmonisation could be identified. Many facilities had no written SOPs in place, even though adequate routines were applied. The primary suggestion for improvement is that if SOPs are not in place, the first important step is to develop SOPs on current procedures, leading to harmonisation within the facility. The suggested improved protocols developed in the process described above are not to be used strictly, but as templates to facilitate and promote development of SOPs that suit the specific facility and initiate communication between facility staff and researchers. Important activities in further harmonisation over facilities are knowledge exchange on SOP development.