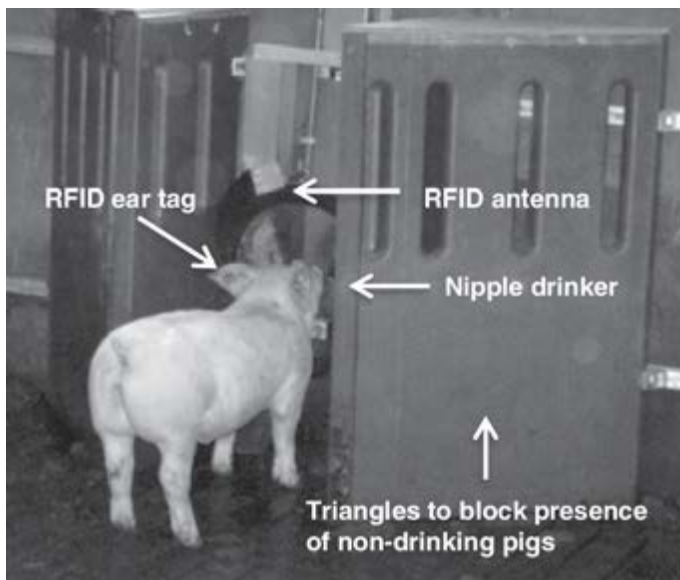


## 2.1 Early detection of health and welfare compromises through automated detection of behavioral changes in pigs

### *Early warning of diseases and production*

This practice consists of pigs' behavior monitoring thanks to the use of automatic sensors. The sensors collect and process precise data allowing the assessment of changes in the behavior of animals, e.g., in terms of daily water and feed intake, the occurrence of coughing and vocalization, or the perception of changes in thermal comfort.

Sensors are microphones, various types of cameras, water flow sensors, (remote) radio frequency identification systems, radio-frequency identification (RFID) technologies etc.



[www.researchgate.net/figure/RFID-system-installed-around-the-nipple-drinker-enables-identifying-drinking-pigs-RFID\\_fig1\\_276147036](http://www.researchgate.net/figure/RFID-system-installed-around-the-nipple-drinker-enables-identifying-drinking-pigs-RFID_fig1_276147036)

Sensors enable the detection of even slight deviations in the behavior of pigs, which are difficult to notice by the handlers and precede subclinical and clinical symptoms. Early detection of health problems is beneficial for well-being and is essential for quick intervention that increases the effectiveness of treatment, reduces costs, and reduces production losses.

To effectively automate the detection of health and welfare threats, it is crucial to properly select technologies and sensors for the conditions and needs of animal behavior measurement.

[www.ncbi.nlm.nih.gov/pmc/articles/PMC5110645/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC5110645/)