

To Compare the Odour Concentration Measured by the Olfactometer to the Odour Intensity Assessed by the Certified Nasal Rangers™

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Abstract Measurement of odour intensity or concentration at detection at the receptor or at an animal production site boundary is a difficult task. The olfactometer is considered as an industry standard for odour measurement. However, with unstable atmospheric conditions, changing wind speed and direction, obtaining downwind odour samples that are representative to what is actually “felt” by the receptors becomes impractical. A more satisfactory method of evaluating odour away from the source appears to be measuring the odour intensity using a methodology developed by St. Croix Sensory Inc. using a butanol scale. Once the odour sniffers have been trained to quantify odour they become certified Nasal Rangers™ (www.fivesenses.com). When using the olfactometer, a sample is collected at one site over a short period of time. The sample may be in transit for one day before being presented to an odour panel. The estimated cost per sample is \$75.00 and up. However, nasal rangers can circle a source at a significant radius and quantify the intensity many times along the arc at relatively low cost and their results are immediate. The outcome of this project will be to establish a relationship between the nasal rangers’ assessment and the olfactometry results. These results will indicate how odours should be assessed at a distance away from the source. These data will be used to calibrate an odour dispersion model. Preliminary results will be presented along with the methodology and equipment used.