**Equation 1.**



FNg ammonia flux (mg N/(m²\*h))

Volume of air passed through the system stroke number \* 0. 1 (l/stroke) (l)

conc reading of Draeger Tube minus background ppm

p0 sea level standard atmospheric pressure (1013.25 hPa)

pact actual air pressure (hPa)

 density of NH3 at temperature of 298.15 K: 696.11 (mg/l)

T25°C air temperature 25°C expressed in Kelvin = 298.15 K

Tact air temperature at measurement (K); calculate values from measurements in (°C) by adding 273.15.

SN dimensionless factor scaling molecular weight of NH3 to molecular weight of N: SN = 14 (g/mol)/17 (g/mol) = 0.824

SA scaling factor for expanding area covered by the 4 chambers to 1 square meter: SA (m-²) = 10000 (cm²/m²)/415 (cm²) = 24.096 (m-²)

ST scaling factor for expanding fluxes from duration of measurement to one hour: ST (h-1) = 3600 (s/h)/duration of measurement (s); duration of measurement determined with stop watch 8hand pump) or by stroke number of automated pump

**Equation 2**

ln (calibrated flux) = 0.444 ln (NH3-flux DTM) + 0.590 ln (v Wind 2m)

**Equation 3**

ln (calibrated flux) = 0.456 ln (NH3-flux DTM) + 0.745 ln (vwind 2 m) - 0.28 ln (vwind 0.2 m)

Explanation of variables in equations 2+3:

calibrated flux calibrated flux (kg N/(h\*m²)

NH3-flux DTM flux values obtained from Eq. 1 expressed as (kg N/(ha\*h)

v Wind 2 m wind speed at height of 2 m (m/s)

v Wind 0.2 m wind speed at height of 0.2 m (m/s)

**Equation 4**

Transfer coefficient kg (N/(ha\*ppm)=

DTMfinal cumulated NH3 loss obtained by DTM for total experimental period (kg N/ha)

Samplercumulated sum of corrected concentrations of all passive sampler sampling intervals for total experimental period (ppm)