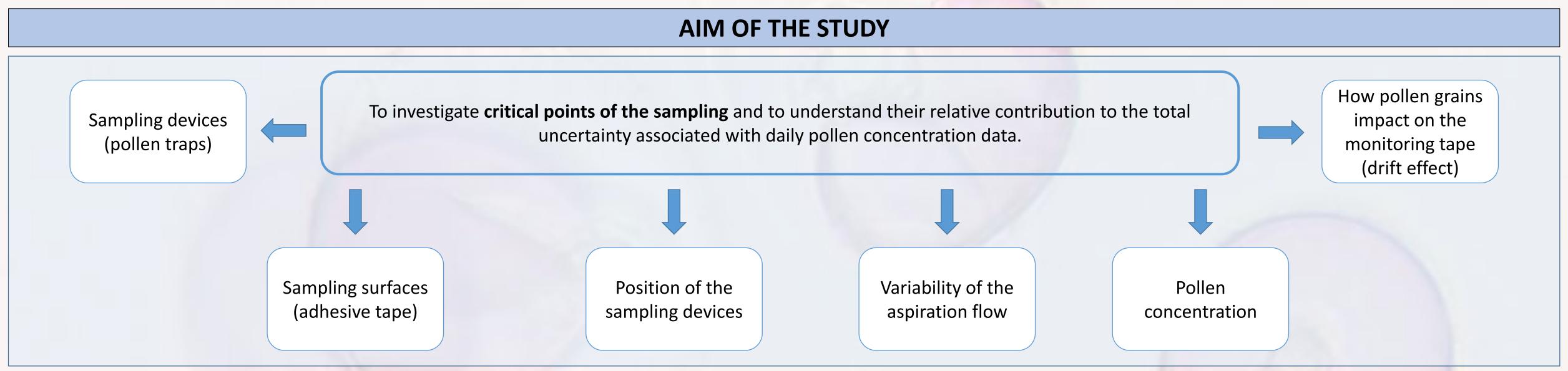


DATA QUALITY IN AEROBIOLOGY: THE IMPORTANCE OF SAMPLING

Sistema Nazionale per la Protezione dell'Ambiente

Borney M. Francesca, Martinet Nicole, De Lorenzi Daniela - ARPA Valle d'Aosta (Italy)



MATERIALS AND METHODS Steps in aerobiology Our research Tape prepared by ourselves in lab (type «**A**») Preparation of the sampling surface Tape bought already made (type **«B»**) Two sampling devices (Hirst volumetric pollen traps «VPPS Aerobiological 2000» or «S1» and « VPPS sampling 2010» or «**\$2**») Position of same same 7 days of the height site monitoring sampling devices Preparation of different different the monitoring heights sites slides (in a 20 km range) Data analysis and statisticals methods Reading on microscope Wilcoxon's signed Coefficients of rank test variation CV% (UNI CEN/TS Spearman's 16868:2015) correlation rank **Precision and** test Accuracy From counts Data (UNI 11108: 2004) Sign test to analyses concentrations **Critical control points:** Recommendations of UNI 11108: 2004 • Operators suitably trained: → in the preparation of the sampling surfaces and the monitoring slides; → for precision and accuracy in pollen identification and count

RESULTS Spearman's Wilcoxon's Sign % data ≤ Total % data ≤ CV% Precision and correlation test** signed test S1 < S2 | S1 > S2 | S1= S2 Accuracy (-1,96<Z_w<1,96) (<3,84) 0** 221 48,87 -0,82* Same site 48,87 2,26 0,75 (0,045*) 31 Different 58 86,21 12,07 32,44 1,72 48 **0,9** (0,057 NS) -5,78 38 heights Different 243 18,93 76,13 4,94 10,20 83,64 28 48 **0,49** (0,056 NS) sites Different 192 42,19 53,13 1,92* 2,41** 4,69 71 0,93 (0,027*) 52 tapes 1 Different 313 30,03 65,81 4,15 29 -7,24 41,81 62 0,82 (0,033*) tapes 2 1 (S1+ A and S2 + B) 2 (S1 + B and S2 + A) *p < 0,05; NS non-significant; Acceptability -1,96<Z_w<1,96; **No difference if < 3,84 There is a considerable part of the uncertainty that is not explained by the factors usually taken into account (UNI 11108:2004) At the same position and tape 59 % **POSITION TAPE** Same site but different S1+ tape prepared (A) S2 + tape already made (B) heights

48 %

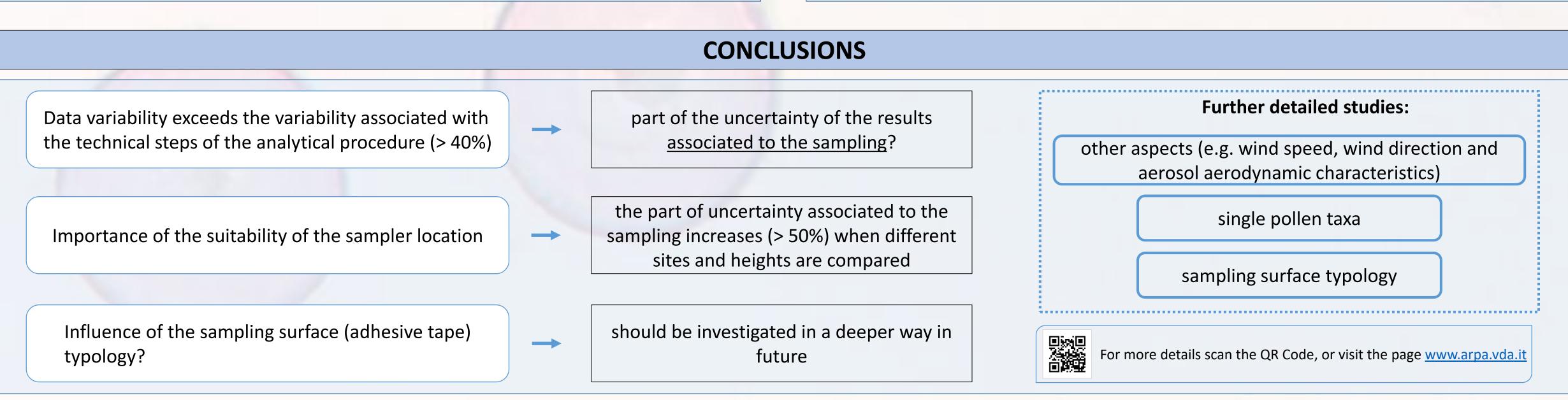
48 %

Variability associated with the technical

steps of the analytical procedure

Different sites in a 20 km

range



71 %

62 %

S1+ tape already made (B)

S2 + tape prepared (A)

Variability NOT associated (sampling?)