WHAT IS THE MINIMAL SURFACE TO BE READ ON A MICROSCOPE SLIDE?

☐ 10% ☐ 15% ☐ 20%

THE ITALIAN NETWORK **POLLnet** SEARCHED AN ANSWER

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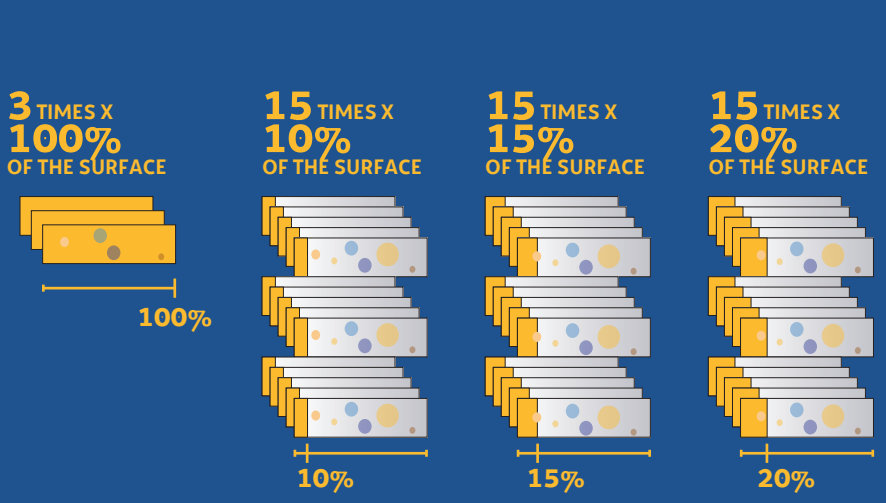
PROGRAM

20 EXPERIENCED AEROBIOLOGISTS

3 MICROSCOPE SLIDES WITH DIFFERENT CONCENTRATIONS OF AIRBORNE PARTICLES

EACH SLIDE WAS ANALIZED MICROSCOPICALLY:

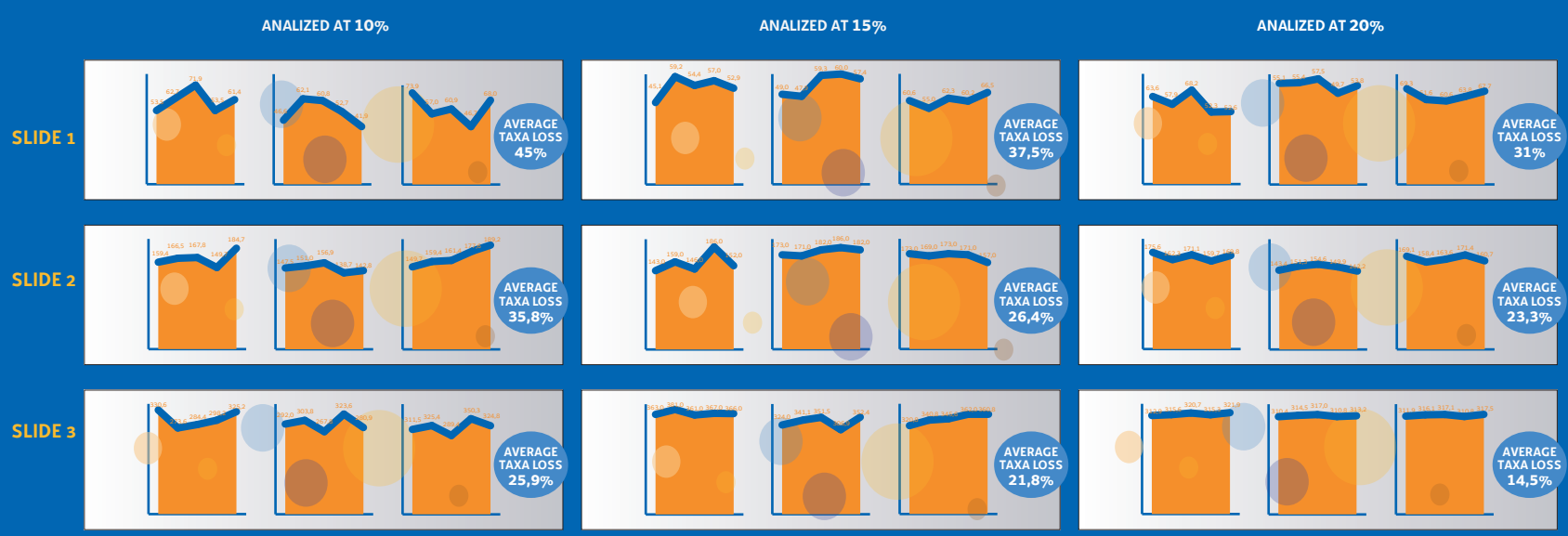


RESULTS

VARIABILITY

The **variability** of data decreases as the examined area increases.

When 10% of the slide area is examined, up to 50% of the taxa can escape the analysis; when the slides were examined on the wider areas (15%, 20%), this lost of taxa decreased significantly.



REPEATABILITY

SLIDE	LECTURE AT 10%	LECTURE AT 15%	LECTURE AT 20%
1	15,5%	9,1%	8,2%
2	7,8%	6,7%	3,6%
3	7,5%	4,4%	1,0%

REPRODUCIBILITY

SLIDE	LECTURE AT 10%	LECTURE AT 15%	LECTURE AT 20%
1	16,0%	10,7%	11,4%
2	9,8%	8,8%	7,3%
3	8,0%	6,2%	1,1%

Repeatability and reproducibility of the analysis showed to vary significantly on the basis of the percentage of the examined areas as well.

DISCUSSION

In order to properly apply the results of the statistical analysis showed above, we need to focalize on the question at the basis of this study: which level of repeatability, reproducibility and fits for purpose? (Sabrina Barbizzi—ISPRA)
We have also to mind that the purpose of airborne pollen and moulds monitoring is supporting not only allergology, but studies on climate changes and biodiversity as well.

POLLnet

is the main Italian network of pollen monitoring:

- 58 sampling stations
- Pool of regional coordinators
- Shared procedures
- Aid to allergology
- Monitoring of climate changes and environmental biodiversity
- Organization of formative events
- Participation to ring test

CONCLUSIONS

The Italian network POLLnet established that the microscope analysis requires such a degree of accuracy to be able to detect also poorly represented taxa, as well as identify and make comparisons among abundances, starting and ending of the flowering period and other ecological parameters.

The results indicate that the ideal surface would be 20%.
However, for contingent reasons, the Italian network POLLnet has adopted as a

minimum reading limit is

15% of the whole sampling surface

which still guarantees the acceptable loss rate.