

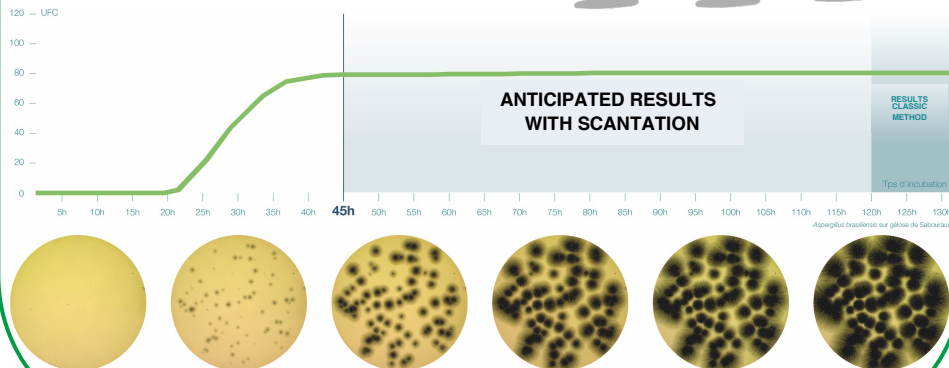
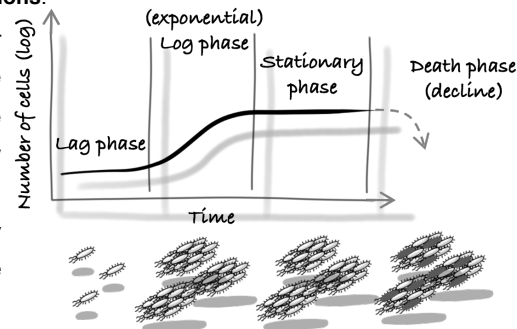


THE APPLICATION POINT

Anticipated result

Real-time reading with the ScanStation allows for monitoring microbial growth. As a reminder, microbial growth kinetics goes through **several phases**. The first of these is the **latency phase**, during which micro-organisms **adapt to their environment**. Once adapted, they begin to **actively divide**, causing colonies to appear exponentially; this is the **exponential growth phase**. When all colonies have appeared, the growth curve enters the **stationary phase**, corresponding to the **growth of each colony**. To determine the time required to obtain anticipated results, it is necessary to note the **time required for all colonies to appear under given conditions**.

With a statistically representative number of analyses, it is possible to determine the moment when there are no more new colonies, i.e. when the **stationary phase is reached**. During this phase, the number of CFUs is already representative of the final result, it is the **anticipated result**.



THE APPLICATION QUESTIONS

Question n°1 :

"What is the **benefit of an anticipated result**?"

ScanStation enables to obtain an anticipated result of microbiological analyses. This means that if the client performs **validation**, depending on the analysis, it is possible to obtain results **up to 3 times before the end of incubation**. For example, to enumerate *Aspergillus brasiliensis* on Sabouraud agar, conventional methods require 120 to 130 hours, whereas with ScanStation, usable results are already available after 45 hours. In industry, obtaining an anticipated result allows for the release of a batch earlier, which is particularly important for fresh products. In case of non-compliant results, this **allows for corrective action to be taken on the production line**. In the medical field, the faster the result, **the faster the patient can be treated**. A thesis was conducted on the subject by Julien Peyroux, who demonstrated the **effectiveness of the ScanStation for detecting multi-drug resistant bacteria**, enabling faster patient management and implementation of measures against strain propagation. Julien Peyroux's thesis and testimonial are available on the **Resources page of the interscience website**. Generally, stopping the analysis earlier means releasing the ScanStation earlier for other analyses.

Question n°2 :

"Can **anticipated results** be used even if the method is not validated?"

Even without method validation, the anticipated result remains very useful. For **positive detection results**, real-time reading allows for a result as soon as the **first colony is detected** and immediate corrective actions to be applied.