

Rapid food and feed diagnostics

Food and feed may contain substances that are harmful for humans and animals. Reliable diagnostics for the rapid assessment of the quality of food and feed are of high importance. Wageningen Food Safety Research develops, manufactures and implements a range of diagnostic methods to measure and trace numerous substances in food and feed. See the overview of the various methods that can be used to measure and detect such substances, depending on the question, matrix and target.



MICROSCOPY	
Speed	●●●
Location	laboratory
Specificity	●●●
Sensitivity	●●●
Number of targets per test	hundreds
Qualitative/Quantitative	qualitative and quantitative
Costs	●
Added value of this platform	untargeted, cheap, fast

NEXT-GENERATION SEQUENCING (NGS)	
Speed	●-●●
Location	laboratory
Specificity	●●●
Sensitivity	●●●
Number of targets per test	thousands
Qualitative/Quantitative	qualitative
Costs	●●●●
Added value of this platform	untargeted and complex matrices

LATERAL FLOW IMMUNOASSAY	
Speed	●●●
Location	on-site or in laboratory
Specificity	●●●
Sensitivity	●●●
Number of targets per test	1-8
Qualitative/Quantitative	qualitative and (semi) quantitative
Costs	●
Added value of this platform	excellent screening tool which can be used by consumers

LAMP	
Speed	●●●
Location	on-site or in laboratory
Specificity	●●●
Sensitivity	●●●
Number of targets per test	1
Qualitative/Quantitative	qualitative
Costs	●
Added value of this platform	screening method, on-site, cheap, fast, rapid sample preparation

SANGER-SEQUENCING	
Speed	●●
Location	laboratory
Specificity	●●●
Sensitivity	●●●
Number of targets per test	1
Qualitative/Quantitative	qualitative
Costs	●●
Added value of this platform	cheap, fast, robust, suitable for routine analyses

TAQMAN PCR	
Speed	●●
Location	laboratory
Specificity	●●●
Sensitivity	●●●
Number of targets per test	1-4
Qualitative/Quantitative	qualitative and quantitative
Costs	●●
Added value of this platform	robust, suitable for routine analyses, automation with pipetting robot

SPECTROSCOPIC AND VISION	
Speed	●●●
Location	on-site or in laboratory
Specificity	●●●
Sensitivity	●-●●●
Number of targets per test	1 and up
Qualitative/Quantitative	qualitative and quantitative
Costs	●
Added value of this platform	non-destructive, on-site, fast discovery of non-compliant samples, positive release of products

SURFACE PLASMON RESONANCE	
Speed	●-●●
Location	laboratory
Specificity	●●●
Sensitivity	●●●
Number of targets per test	4
Qualitative/Quantitative	(semi) quantitative
Costs	●●
Added value of this platform	screening tool for antibody selection, direct and indirect biosensor, kinetic evaluation

LUMINEX	
Speed	●●
Location	on-site or in laboratory
Specificity	●●●
Sensitivity	●●●
Number of targets per test	50 - 500
Qualitative/Quantitative	(semi) quantitative
Costs	●●
Added value of this platform	robust multiplexing, easy addition of analytes or analyte groups to existing multiplex, combination of multiplexes for desired matrices

More information? www.wur.eu/food-safety-research