

IPSSC +
CMBO

STUDENTS' CONFERENCE

Jožef Stefan International Postgraduate School
and Young Researchers' Day CMBO

19 and 20 April

Novel approaches for detection and quantification of genetically modified organisms (GMOs)

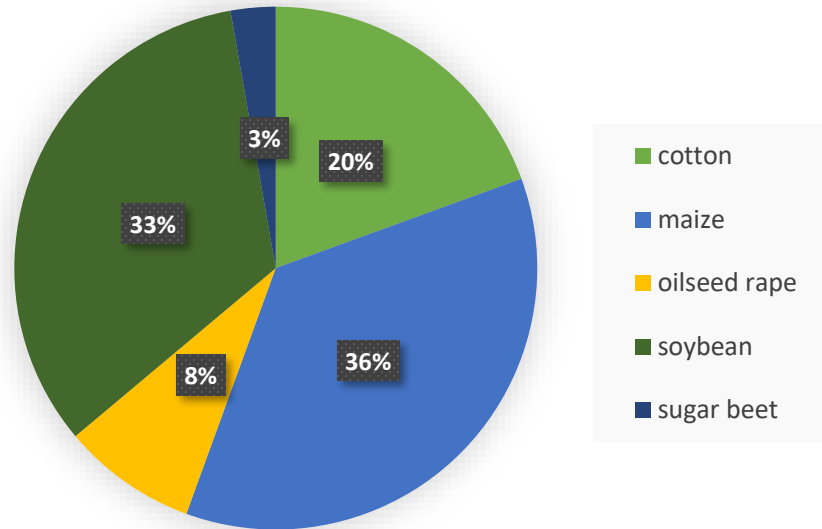
Alexandra Bogožalec Košir,

National Institute of Biology,

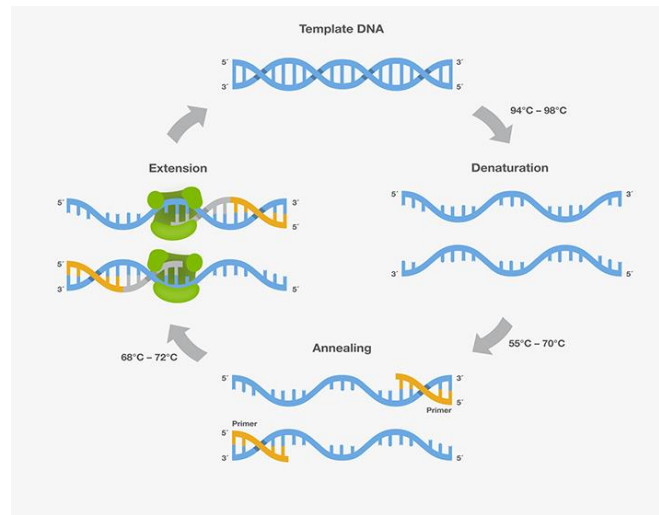
Department of Biotechnology and Systems biology

Poster number: 63

GENETICALLY MODIFIED ORGANISMS - GMOs



DNA BASED DETECTION AND QUANTIFICATION OF GMOs

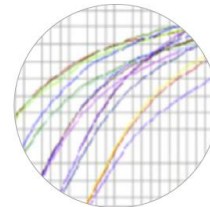


1st
1983



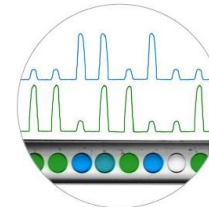
PCR
Qualitative

2nd
1996



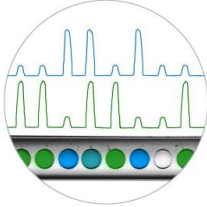
Real-time PCR
Relative Quantitation

3rd
2011



Droplet Digital PCR
Absolute Quantitation

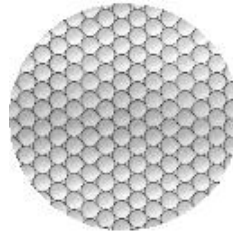
3rd
2011



**Droplet Digital PCR
Absolute Quantitation**

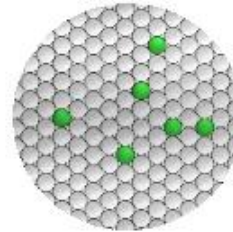
DIGITAL PCR

Sample 1



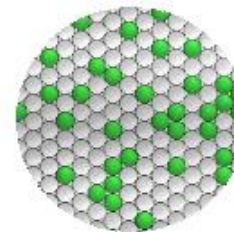
No
target

Sample 2



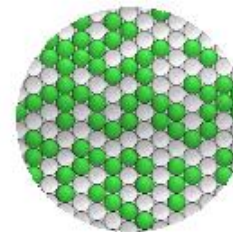
Low
concentration

Sample 3



Medium
concentration

Sample 4



High
concentration

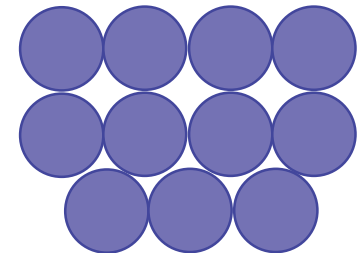
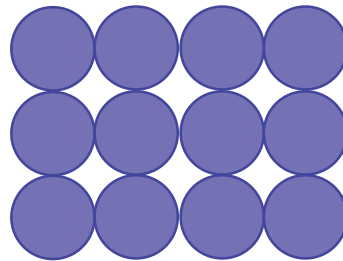


Siméon Denis Poisson
(1781-1840)

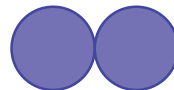
MULTIPLEX QUANTIFICATION WITH ddPCR



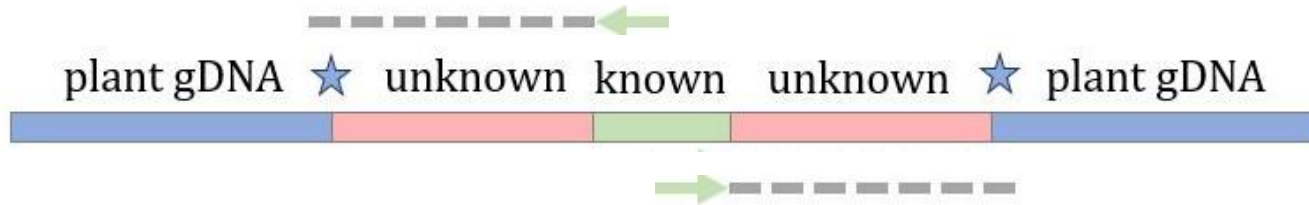
qPCR



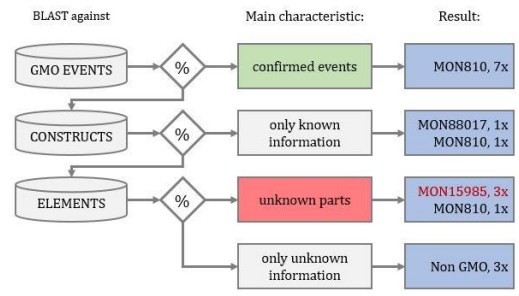
Multiplex ddPCR



WHAT ABOUT UNAUTHORISED GMOs?



411 CCS reads // pre-processing: 401 CCS reads // clustering: 16 representative reads



UGMO/GMO/wt



ACKNOWLEDGEMENT

prof. Dr. Jana Žel

Dr. David Dobnik



Department of Biotechnology and Systems
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Dr. Arne Holst-Jensen

Dr. Bjørn Spilberg



Dr. Carla Divieto



Dr. Jeroen van Dijk

Dr. Esther Kok

Dr. Martijn Staat

Alfred J. Arnulandhu

Marleen

Voorhuijzen

