

# Addressing Food Safety and Authenticity Issues through Rapid Analytical Methods

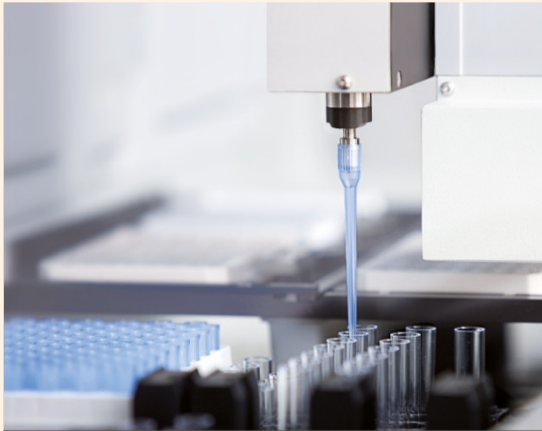
Jerobiam Marvin Julies  
(M.Sc.)

Food & Feed Department

Sales Manager  
(Africa & Middle East)



## R-Biopharm Group – your trailblazer in health and quality of life



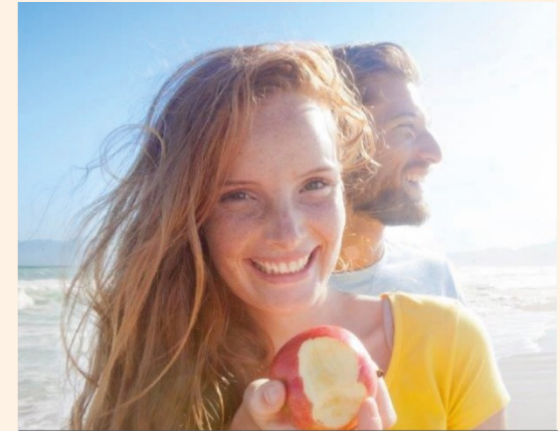
### Clinical Diagnostics

We offer innovative products for numerous applications in the area of clinical diagnostics.



### Food & Feed Analysis
















Our extensive product range offers best solutions for reliable food and feed analysis.



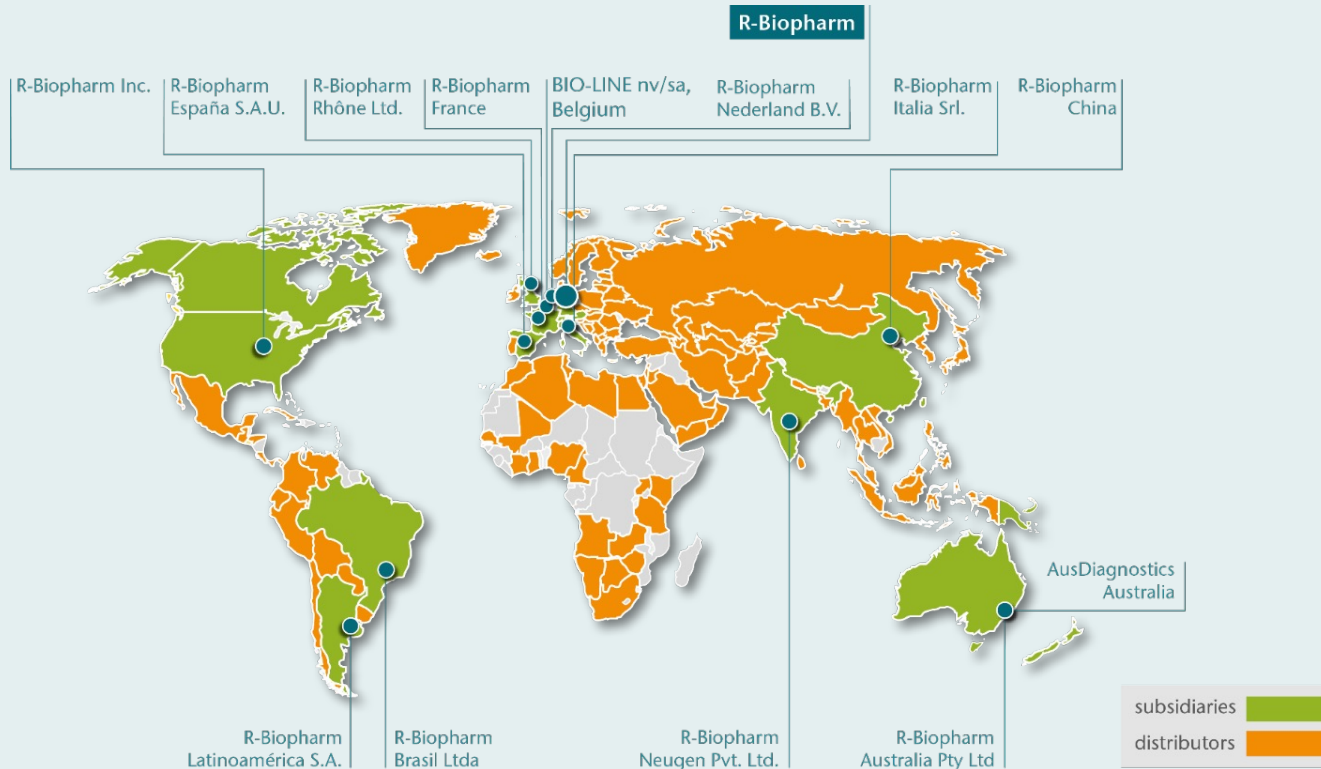
### Nutrition Care

Our innovative concepts combine sophisticated diagnostics with individualized programs and services for wellbeing, prevention and therapy.

## Company Management – Board of Directors & SOLeT

 <p><b>Christian Dreher</b> Managing Director</p>	 <p><b>Ute Salzbrenner</b> Managing Director</p>	 <p><b>Jochen Hirsch</b> Managing Director</p>	 <p><b>Dr. Peter Schubert</b> Managing Director</p>
 <p><b>Dr. Lena Kastl</b> Vice President Clinical Diagnostics</p>	 <p><b>Andreas Skeide</b> Vice President Finance</p>	 <p><b>Dr. Sigrid Haas-Lauterbach</b> Vice President Food &amp; Feed Analysis</p>	 <p><b>Dr. Markus Böhl</b> Vice President R &amp; D</p>
 <p><b>N.N.</b> Vice President Nutrition Care</p>	 <p><b>Silke Thurner</b> Vice President Operations</p>		 <p><b>Esther Ostermeyer-Frickel</b> Vice President SAS</p>
 <p><b>Dr. Krutarth Patel</b> Vice President QM/RA</p>	 <p><b>Holger Heininger</b> Vice President Infrastructure</p>		
 <p><b>Stephanie Kantwill</b> Vice President Human Resources</p>	 <p><b>Carsten Ackermann</b> Vice President Digital Transformation</p>		

## World wide distribution



## Product groups – Food & Feed Analysis



**Food allergens**  
e.g. gluten, milk, nuts



**Mycotoxins**  
e.g. DON, Aflatoxin,



**Enzymatic analysis**  
Determination of acids, sugars, alcohol content



**Vitamin analysis**  
Detection of vitamin content



**Residues**  
Antibiotics, hormones and alcohols



**GMO**  
Detection of genetically modified organisms



**Identification of animal species**  
Finding food adulteration and food fraud



**Microbiology/Hygiene control**  
Detection of microbiological contamination

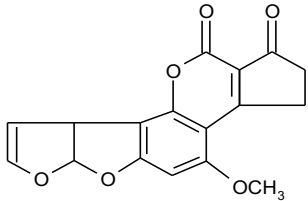


**Equipment/Automation**  
Laboratory automation and support

# Mycotoxins – a omnipresent problem?



- Where you can find agricultural production there is a risk for mycotoxins
- Mycotoxins can't be 100% controlled nor efficiently eliminated
- However, there are major regional differences due to climate
- Different environmental conditions favor different molds - hence different mycotoxins



# Mycotoxins, and why you have to check for

Major commodities associated with mycotoxins:

- Corn (AFB, FUM, DON, ZON)
- Wheat (Trich's, ZON)
- Rice, Barley, Oat, Rye, Sorghum (AFB; OTA, Trich's)

(Corn, wheat, rice and barley cover > 90% of world cereal production)

- Oilseeds (peanuts, soy) (AFB, OTA)
- Tree nuts, fruits (raisins, figs, apples) (AFB, OTA, PAT)
- Coffee, tea, liquorice, spices, herbs (AFB, OTA)
- All products derived from these commodities







# RIDA®QUICK mycotoxin - lateral flow solutions from R-Biopharm



Short testing times



Easy to perform



Quantitative



The optimal tool for on-site testing of raw materials



Innovative test reading with smartphone

## Aqueous extraction



### Product

RIDA®QUICK Aflatoxin RQS ECO

RIDA®QUICK DON RQS ECO

RIDA®QUICK Fumonisin RQS ECO

RIDA®QUICK T-2 / HT-2 RQS ECO

RIDA®QUICK Ochratoxin ECO

Coming soon!

## Ethanol/methanol extraction

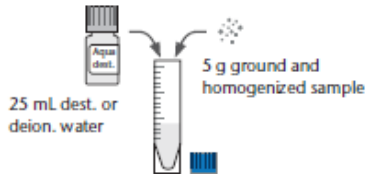
### Product

RIDA®QUICK Aflatoxin RQS

RIDA®QUICK Zearalenon RQS

# Example: RIDA®QUICK DON RQS ECO

**1**




25 mL dest. or deion. water

5 g ground and homogenized sample

For larger sample sizes increase the water volume proportionately, e.g. 50 g + 250 mL

**2**

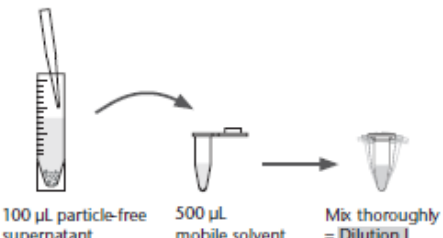


Shake vigorously for 30 sec

Centrifuge (1 min, 2000 g)

Filtrate/5 min allow to settle

**3**

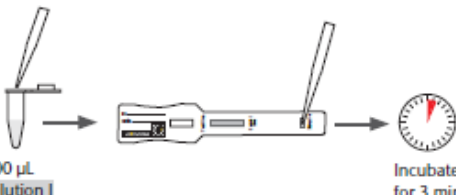


100 µL particle-free supernatant

500 µL mobile solvent

Mix thoroughly = Dilution I


**4a** Detection range: 0.25 - 7.5 mg/kg (ppm)



100 µL Dilution I

Incubate for 3 min

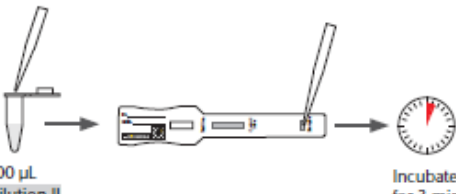
**4b** Detection range: 7.5 - 50 mg/kg (ppm)



100 µL Dilution I

700 µL mobile solvent


Mix thoroughly = Dilution II



100 µL Dilution II

Incubate for 3 min

**5**



Evaluation with RIDA\*SMART APP

Scan test strip

Read and/or export the result

# RIDA®SMART BOX and RIDA®SMART APP

Innovation meets customer demand



Scan Smart. Be Smart. With the **RIDA<sup>®</sup>SMART APP**

r-biopharm<sup>®</sup>

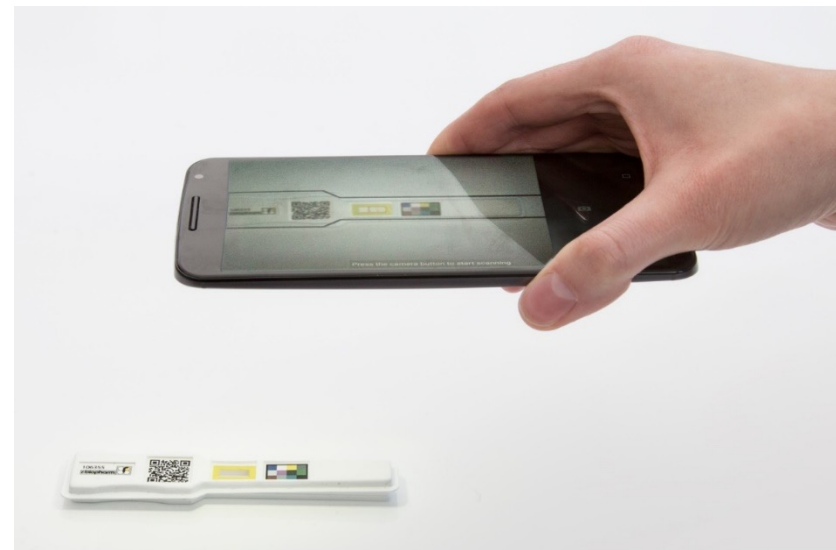


# RIDA® SMART APP Uniqueness



- ✓ R-Biopharm is the only company world wide who offers this kind of technology for Food & Feed analysis
- ✓ Successful in the rapid mycotoxin analysis since 2016
- ✓ More than 3000 users world wide
- ✓ Unique, innovative evaluation with a smartphone (RIDA® SMART APP)
- ✓ Patent Technology: **US Patent** US9390237B2  
**EU Patent** EP2923335B1

## SCAN



The RIDA®SMART BOX is an innovative benchtop lateral flow imaging unit for an automated readout of RIDA®QUICK tests from R-Biopharm AG in combination with the RIDA®SMART APP.



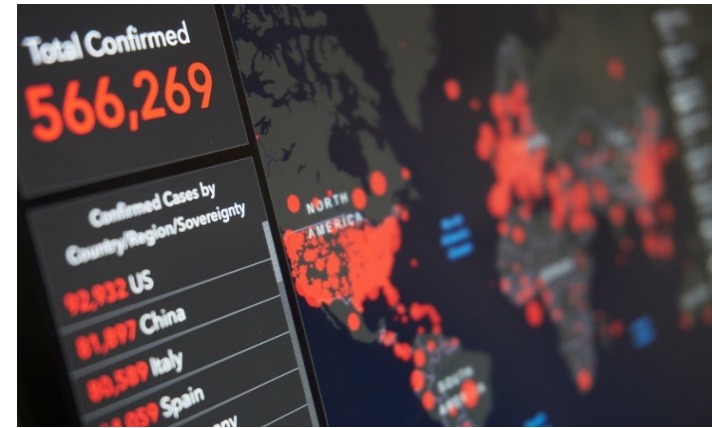
# The next chapter of the food supply chain tracing!

## Connect your rapid Mycotoxin Risk Management



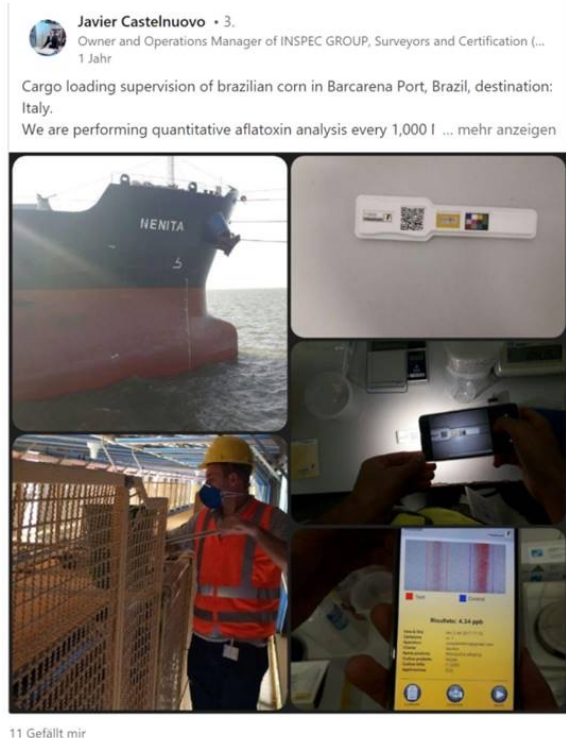


# Work with your own cloud based corporate portal



- Real time data
- Data from all sites world wide in one portal
- Export data of interest
- Interpretation of results
- Traceability of kit/sample/technician
- Make the right decisions when its needed

## Cargo loading supervision of a shipload of corn in Brazil – RIDA®QUICK test and RIDA®SMART APP



\* Source: Twitter

# Thank you

for your attention!

More about R-Biopharm

[www.r-biopharm.com](http://www.r-biopharm.com)



<https://r-b.io/Image>

