

# Novasil™ Plus

Mycotoxin binder

Pocket Guide

 **BASF**  
The Chemical Company

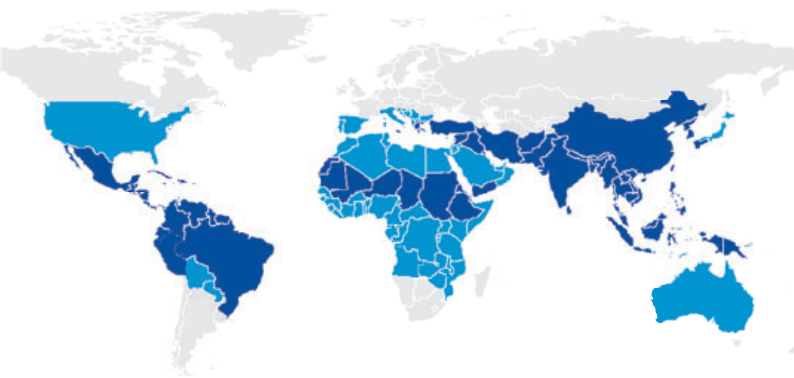
How do you make sure that the mycotoxins in your grain don't impair animal health or performance?



How do you make sure that  
mycotoxins in your feed don't  
impair your profit?



# The Countries Most Affected by Mycotoxin Contamination of Feed



- Moderate occurrence
- High occurrence

# Mycotoxin Binders: Solution That Lowers the Risk of Animals Being Exposed to Mycotoxins



- Mycotoxin binders like Novasil™ Plus minimize the negative effects of aflatoxins on animals.
- During digestion, they bind aflatoxins and render them largely unavailable for uptake by the animal.
- Mycotoxin binders do not eliminate mycotoxins from feed.

## Maize

The most contaminated feed crop and the economically most relevant one.

Aflatoxins are the most toxic mycotoxins often found in maize.

In addition, fumonisins frequently occur in maize.

# Novasil™ Plus

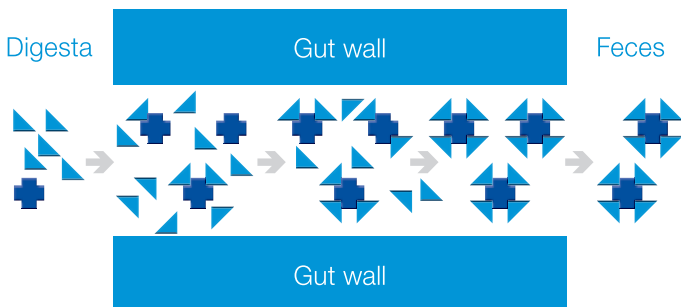
- A natural clay rich in calcium montmorillonite
- Mined in the USA
- Specifically binds aflatoxins and some fumonisins
- The most studied and proven mycotoxin binder:  
60+ peer-reviewed *in vitro* and *in vivo* studies published



# How Novasil™ Plus Binds Mycotoxins

## Principle:

Novasil™ Plus binds aflatoxins, thus preventing their uptake in the gastrointestinal tract.



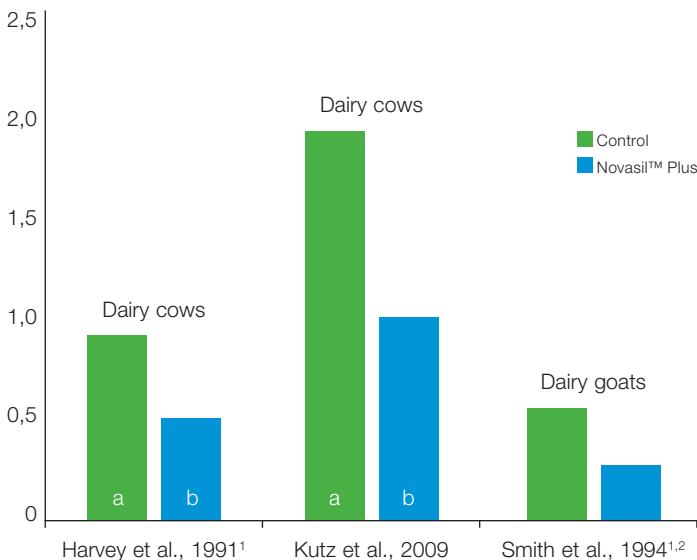
▲ Aflatoxins

■ Novasil™ Plus



# Scientific Studies Prove That Novasil™ Plus Lowers Aflatoxin Levels in Animals

## Aflatoxin M<sub>1</sub> content in milk (µg/L)

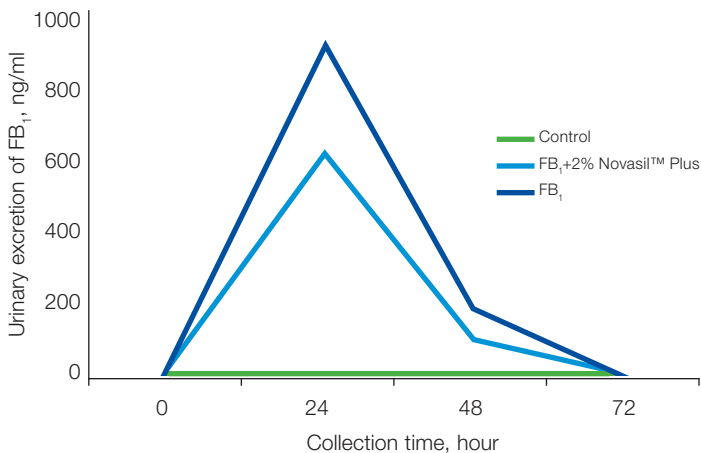


<sup>1</sup> Aflatoxins from fermented rice. <sup>2</sup> Aflatoxin M<sub>1</sub> in milk: average of five periods.

<sup>a,b</sup> Means in the same column with different superscripts differ significantly at  $p < 0.05$ .

# Novasil™ Plus Reduces the Fumonisin B<sub>1</sub> Exposure of Rats

- Single dose of Fumonisin B<sub>1</sub> (FB<sub>1</sub>) at 25 mg/kg body weight (by gavage) with or without 2% Novasil™ Plus.
- Novasil™ Plus significantly (by 30 and 50%) reduced total urinary FB<sub>1</sub> on days 1 and 2, respectively.



# Novasil™ Plus

## Dosage and Application

- **0.1 to 0.5% (or 1 to 5 kg/tonne of feed), depending on aflatoxin levels and animals**
  - 0.1%: Aflatoxin level 80–100 ppb
  - 0.25%: Aflatoxin level up to 3,750 ppb
  - 0.5%: Aflatoxin level up to 7,500 ppb
- **Young animals and breeders:** start from 2 kg/tonne
- **Dairy cows:** start from 2 kg/tonne
- **Application:**
  - Add to mineral premix
  - Mix it in feed with other ingredients

# Novasil™ Plus

## Stability and Safety

### Bulk stability

Novasil™ Plus has a shelf life of 36 months if stored in the sealed original packaging in a dry place.

### Feed stability

Novasil™ Plus is stable in feed.

### Safety

Studies have shown that long-term use of Novasil™ Plus does not bind nutrients or negatively affect performance or health of animals. Novasil™ Plus may therefore be considered safe.

# Criteria for Selecting the "Best" Mycotoxin Binder

1

Target mycotoxin(s)

2

Resistance during feed production (e.g. heating)

3

Resistance during digestion (e.g. pH)

4

Strength and reliability of mycotoxin binding

5

Amount of valuable nutrients being (not) trapped

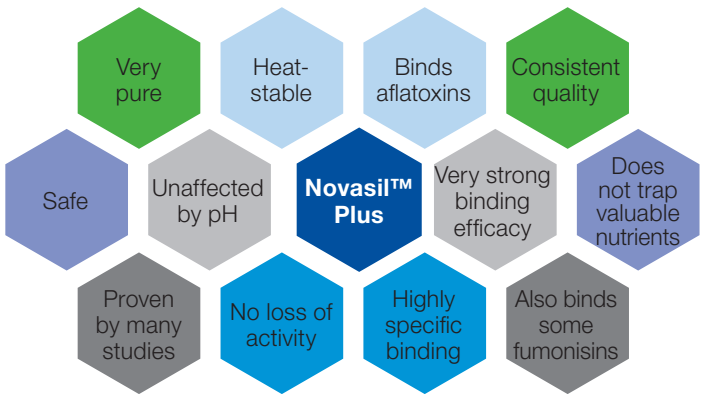
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Purity and safety during long-term use

7

Scientific proof

# What Makes Novasil™ Plus So Special?



Novasil™ Plus is the only mycotoxin binder available in the market that combines all of these important characteristics.

# Mycotoxin Binders Overview

	Mode of action	Target mycotoxin	Heat stability	pH resistance	Bulk stability	Aflatoxin binding efficacy	Scientific evidence
<b>Novasil™ Plus</b>	Binding	Aflatoxins, fumonisins	High	High	High	High	Numerous
<b>Other types of clay</b>	Binding	Aflatoxins, fumonisins	High	High	High	Various	Low
<b>Yeast-derived products</b>	Binding	Broad spectrum	Low	High	Various	Various	Various
<b>Enzyme-producing microorganisms</b>	Deactivating	Broad spectrum	Low	Low (works at certain pH level)	Limited	Limited	Low

## Conclusion

If you want to minimize the harmful effects of the most dangerous mycotoxin (aflatoxin), the best product available for this is Novasil™ Plus.



BASF is your reliable partner  
for animal nutrition.

We are here to discuss the best  
mycotoxin solution for you.



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Note: National regulations may vary and need to be considered.  
Novasil™ Plus is registered as a mycotoxin binder in some but not all countries.