



# The Linguistic Discourse of “Genetic Engineering of Crops” in German Newspapers: a Frame Semantic Analysis in the Environmental Humanities

Coenen, Sara; Göbel, David; O’Sullivan, Ciara; Schaschek, Dana; Stuthe, Christina

Baumwolle Futtermittel Gerste Hefe  
Kartoffel Kartoffelsorte Lebensmittel  
Mais Maissorte Maus Mücke  
Nahrungsmittel Organismus  
Pflanze Raps Reis  
Saatgut Soja Sojabohne  
Zuckerrübe

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## Background

Since the 1990s, the public discourse on genetic engineering has become increasingly intense. Scientific developments during the last ten years point to further interventions in genetic material, and opinions differ greatly. There is a big difference between the debates about genetic engineering in the scientific community and in public discourse. While some terms are mainly used in the general media, they are rarely used in scientific papers and are considered colloquial.

## Methods

Analysis of the terms used to describe genetic engineering in the German newspaper articles from 2013 to 2023: Specific words translating to “genetically manipulated” (genmanipuliert), “generically changed” (genverändert), and “genetically modified” (genmodifiziert) We performed a frame semantic analysis according to Filmore and combined this with an individual close look at selected articles to identify aims and contexts.

## Definition of Frames

Frames in semantics are the ideas and connotations one gets when hearing or reading a word. These frames are divided in categories and showcase how a word might influence one’s perception.

## Conclusion

Expected difference in the frames of the terms can be confirmed. Clear associations of the terms in the different contexts cannot be seen. For further research: The term “manipulated” tends to be an element of negatively connoted frames. It could be interesting to investigate whether this linguistic representation implicates a certain wariness towards new scientific breakthroughs.

## Research Questions

- How are the different terms (genmanipuliert, genverändert, genmodifiziert) used in press texts (co-text of phrases)?
- Can their usage be indicative to the stance of an article towards genetic engineered crops?
- (How) do they influence the understanding of genetic engineering in the public?

“Fortschrittlich findet Mack Gentechsaaten – weltweit sind bereits 75 Prozent der Soja- und 32 Prozent der Maissaaten **genmodifiziert.**” (Syngenta-Chef-Ein Bienenfreund. Sonntagszeitung 2014)

“(…)denn die in aller Regel aus Südamerika importierten Sojabohnen sind **genmanipuliert** und deshalb auf dem deutschen Markt unerwünscht” (Ernte gut, alles gut. Generalanzeiger 2013)

“Und dafür hätten Bayer und Monsanto die richtigen Produkte. Monsanto ist stark bei Saatgut, das freilich oft **genverändert** ist, Bayer beim Pflanzenschutz” (Bayer bildet Agrarchemie-Riesen; Leverkusener Konzern kauft Monsanto für Rekordsumme von 59 Milliarden. Kölnische Rundschau 2016)

## Results

Term	Agens	Patiens	Aim	Arena (locality)	Activity
“Genverändert” (genetically changed)	Scientists	Genes	Adaptation, optimization	Laboratory, farms	Development
“Genmanipuliert” (genetically manipulated)	Scientists	Genes	Manipulate for profit	Laboratory, farms	Forced
“Genmodifiziert” (genetically modified)	Scientists	Genes	Optimization	Economic, market, companies	Progress

### “genverändert”

- Economic orientation, research & development
- Goal usually **scientific progress and adaptation to conditions**, as well as **monetaristic intentions**
- Texts often seem rather **differentiated and neutral**
  - Scientific arguments are mentioned
  - Often several sides are examined

### “genmanipuliert”

- Used as **something negative** or to **describe something as not “good” or “healthy”**
- Often highlighted that something is **not “genmanipuliert”** (not genetically modified)
- Used **one time only** in most articles

### “genmodifiziert”

- Used in **negative and positive contexts**
- In connection with development and progress
- When referring to **global lack of food supply as a distraction from profit orientated reasons**
- Used in international and EU market contexts