

# The Change in Agriculture in our State of NRW (Then and Now)

NRW: “North Rhine-Westphalia”

# Agriculture in NRW undergoing change

The methods of agriculture, as well as livestock farming and its land use have changed drastically over time. For example, from the scythe to the combine harvester in terms of mechanisation.

About 1935: During this period almost all work was still done by hand, such as the laborious process of grain harvesting, which at that time was still done by horse and plough.

Present Time (2018): The tedious work of the past is now done by machines such as tractors. This not only saves a lot of time, but also personnel.

Another contrast between those times and today is the need for agricultural products.

At that time, farmers were mostly self-sufficient, today they sell their products.

The methods in the field of agriculture have also changed drastically.

## Middle Ages: Three-field economy

### General information:

Since the arable soil must recover after the harvest, because otherwise no more yields can be won, a method was developed, which is called “**three-field economy**”, which counteracts this process of leaching of soil (i.e. losing minerals and nutrients).

A large field was divided into 3 smaller fields:

1. winter cereals
2. summer cereal
3. wasteland

In autumn, winter cereals were grown on the fallow (~uncultivated) land, summer cereals were grown on the winter cereal field and the summer cereal field was left fallow.

This method allowed the soil to recover and yields were higher than before.

### Characteristic Features of the three-field economy:

**Weed/pest control:** through weeding – by hand

**Consumers** (humans and animals) received unpolluted foods

**Fertilization:** dead organic material, slurry/stable manure

**Disadvantage:** low yields

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## Intensive agriculture (from 1900 - 2000 )

### General information:

In **intensive agriculture (~farming)**, the areas under cultivation were not increased, but high yields were achieved through the targeted use of *fertilisers* (~additional nutrients, minerals etc.) and *irrigation* (~a controlled supply of water).

This intensive agriculture is mostly done today, because the soil is too scarce to do big agriculture and this method does not require much cultivation area.

However, with this farming method a lot of personnel is needed and fertilizers are used.

### Characteristic features:

**Weed/pest control:** herbicide, fungicide and insecticide spraying

**Consumers:** receive chemically contaminated foods

**Fertilization:** chemical and mineral agents (phosphorus, potassium, etc.)

**Limited land resources:** no draining of swamps, no slash-and-burn, but high yield

**Slash and burn** is a method of farming that involves clearing land by destroying and burning all the trees and plants on it, farming there for a short time, and then moving on to clear a new piece of land.

**Disadvantage:** highly negative impact on the environment

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## Organic farming - an overview:

### General information:

**Organic agriculture** is mainly about *economic activity in interaction with nature*. The aim is to achieve a nutrient cycle that is as far as possible within the farm, i.e. to ensure that the feed and nutrient basis is provided by the farm itself – and not by fertilizers bought from outside, etc.

The fertility of the soil is maintained and the animals are kept in a species-appropriate manner.

### Characteristic features:

**Weeds / Pest control:** spraying of degradable (mainly) liquids ,  
crop rotation

**crop rotation:** the practice of changing the crops that you grow in a field each year to preserve the good qualities in the soil

**Consumers :** receive unpolluted foods

**Fertilization :** dead organic material (slurry [~liquid animal waste], organic manure [~solid animal waste mixed with straw etc.]) , green manure , only mineral fertilizer (potassium , phosphorus)

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## Organic agriculture in NRW:

### General Information

Within the framework of the "NRW Rural Area Programme", the State of NRW promotes the conversion of agricultural farms to organic farming. The basis for this is the so-called EAFRD Regulation of the EU.

EAFRD: the European Agricultural Fund for Rural Development

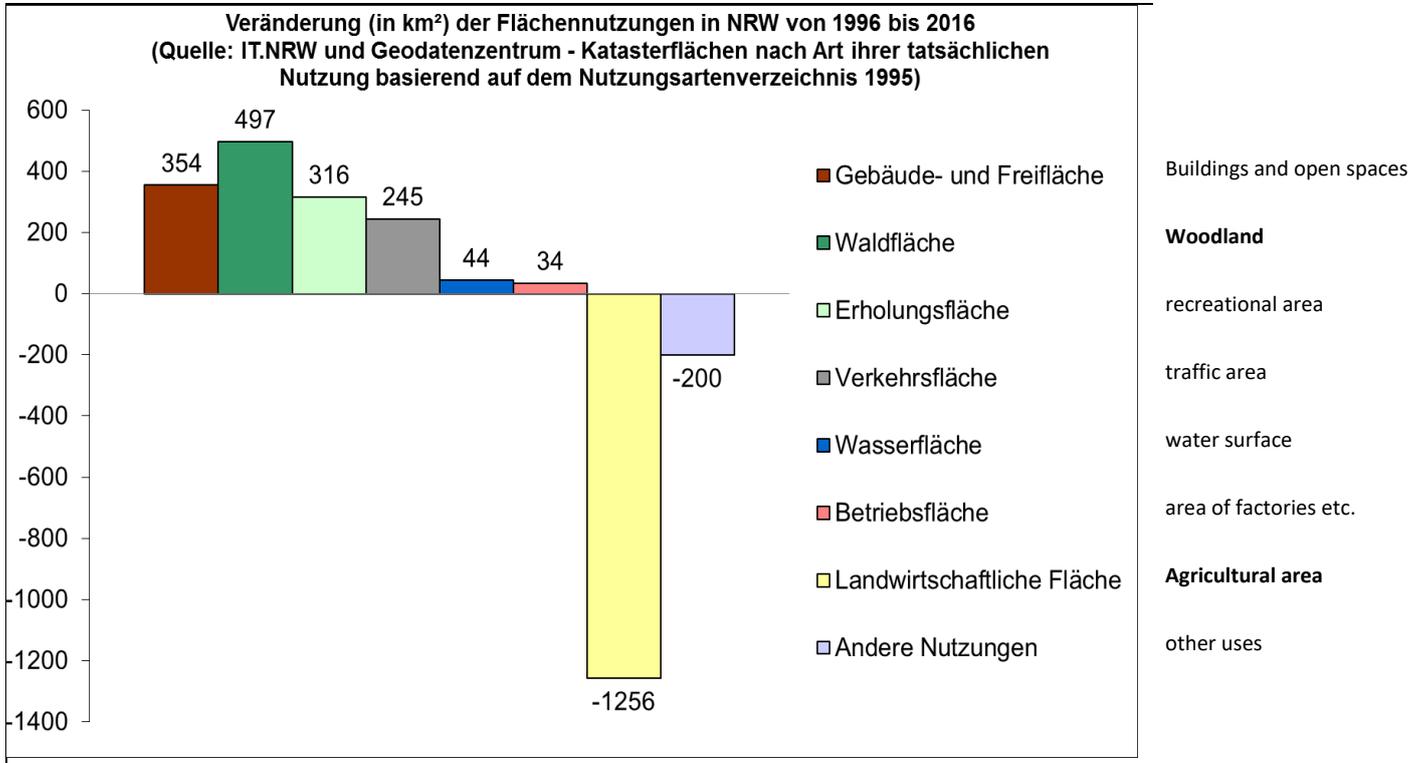
The measure is co-financed by the EU and the Federal Government of Germany through the joint task "Improvement of agricultural structure and coastal protection" (GAK). In 2014, around 1,500 organic farms in NRW received a payment for the ecological cultivation of 55,000 hectares of land.

### Organic farming (premiums in € per ha and year )

A ha (=hectare) is 10,000 square metres	year2 1-2	years 3-5	years 5-9	
arable land	520	260	260	
permanent grassland	330	220	220	
Vegetables / Ornamental plants	<b>1.440</b>	400	400	
Permanent crops / tree nursery areas	<b>2.160</b>	940	940	
<b>greenhouse cultivation</b>	<b>6.000</b>	<b>5.000</b>	<b>3.800</b>	

# Agriculture in NRW undergoing change

## Change in land use in NRW from 1996 to 2016 in km<sup>2</sup>



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## Organic agriculture in Germany

farms: 26,855

organic farming: 1.25 million ha

This is 7.5% of all farmland

😊 Thanks for listening / reading 😊