

# Crop farming in Upper Austria

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## Area statistics:

- 290.000 hectares of cropland
- 220.000 hectares of grassland
- 490.000 hectares of forest

Upper Austria provides suitable conditions for crop farming. The average annual rainfall ranges between 800 millimeters in the *Zentralraum* (cropland between *Linz*, *Wels* and *Steyr*) and 1,100 millimeters in the southern regions of Upper Austria (with crop farming). The average annual rainfall is lower in the *Mühlviertel* (north of the Danube) with about 700 to 900 millimeters and higher in the alpine foothills with more than 1.200 millimeters.

The average annual temperature ranges between 7.2 degrees Celsius (*Freistadt*) and 9.2 degrees Celsius (*Linz-Hörsching*). Recently, the average annual temperature has been about two degrees higher.

## Crops

### Grain and maize

The cultivation of grain is very important. Upper Austria has about 125,000 hectares of grain (52,000 hectares of winter wheat, 39,000 hectares of winter barley, 16,000 hectares of triticale, 5,500 hectares of rye and about 12,000 hectares of summer grains).

Crop yields:

Crops	Crop yield in decitonne per hectare
Wheat	55 – 90
Triticale	45 – 80
Barley	50 – 75
Grain maize	About 100

Maize is the most important crop (50,000 hectares of grain maize and 30,000 hectares of silage maize).

### Oil and protein plants

In Upper Austria, the most significant oilseed is soya bean (12,600 hectares). In the previous years, the cultivation of rapeseed has decreased (to about 7,500 hectares) due to conflicts in regards to the use of pesticides. Rapeseed is cultivated for *RAPSO* (cooking oil) contract production. Soya beans are mainly cultivated for the food industry. Since 2015 the cultivation area of oil pumpkins has been increasing rapidly. In 2016, Upper Austrian farmers cultivate about 1,900 hectares of oil pumpkins (167 percent more than 2015).

Formerly, in Upper Austria the cultivation of field beans and grain peas was very important. However, the crop area was reduced as a result of poor yields. Recently, the cultivation of field beans has been increasing again, especially organic farms have been using field beans as important protein source.

## **Current key aspects**

Traditionally, the yields in Upper Austria are very stable. Upper Austria comprises about 21 % of the Austrian cropland but produces about 25-27 % of grain and maize in Austria. The processing/finishing industry is highly significant in Upper Austria, as is animal farming. About 40 % of the pig and 33 % of cattle production is located in Upper Austria.

## **Cultivation of soya beans – Future perspectives**

The cultivation of soya beans holds promising opportunities for the future. Austria comprises (about 57,000 hectares of soya beans, which is a leading position in Europe. Food industry (baking additives, soya drinks and tofu) and the use of the full-fat soya bean in livestock feeding are interesting marketing opportunities in the modern food industry. The export of GMO-free soya beans can also be expected to be a promising market area.

## **Seed corn**

Upper Austrian farmers cultivate about 1,700 hectares of seed corn. Maize sorts bred by *Saatbau Linz* have gained a good international reputation. There are distinguished own varieties with very stable yields. Seed corn breeding in Upper Austria is attractive to organizations. As a result, *Saatbau Linz* has built a modern preparation plant in *Geinberg* (construction costs: 23 million-euros).

## **Ecological questions of the production**

As a result of high stock density in Upper Austria, the efficient use of manure is decisive. The surface-near spreading of liquid farm manure is an important factor. Consulting service concerning erosion control is another essential issue. In Upper Austria, the ÖPUL-program “Direct seeding and seeding on mulch” includes about 40,000 hectares. Another key aspect is water-friendly plant protection. In 2013, the soil protection consulting service of the chamber of agriculture merged with the water protection consulting service of the government of Upper Austria to the *Boden.Wasser.Schutz.Beratung*. Currently, ten consultants are responsible for questions concerning soil and water protection.

## **Corn rootworm – Diabrotica**

Controlling the corn rootworm is a vital future task because of the high significance of maize in Upper Austria. Primarily, the most effective control strategy is the crop rotation with maize cultivation breaks. Producers of seed corn also apply insecticides to control this pest.

## **Grassland and forage production**

Upper Austria has about 220,000 hectares of grassland and 40,000 hectares of forage production. About 90 % of grassland is used more than once a year. There are different levels of intensity from extensive meadows and pastures up to five and more cuttings a year. In some regions cockchafer grubs are a serious problem.

## **Horticulture and Pomiculture**

Farmers cultivate about 1,500 hectares of vegetables (salad, cabbage, pickles and sauerkraut) in the areas *Eferdinger Basin* and *Machland*. *EFKO* is a successful company for preserving fruit and vegetables.

Important fruits are apples (455 hectares) and strawberries (400 hectares). The apple production is increasing steadily.

Upper Austria has about 130 hectares hops mainly in *Rohrbach* (northern of the Danube) and about 200 farmers running tree nurseries (640 hectares). Among them, there are also a few seedlings and cut flowers producers.

### **Strengths of Upper Austria**

- Constant yields
- Professional know-how of the farmers
- Strong economy
- 1.4 million mainly solvent inhabitants
- Strong processing sector
  - *Saatbau Linz*: seed breeding company
  - *AGRANA*: processing of starch (about 400.000 tons of maize per year)
  - Mills and bakeries: *Resch und Frisch, Fischer Brot, Backaldrin, Pfahnl, ...*
  - Compound feed companies
  - *EFKO*

### **Professional emphases of the division plant production of the chamber of agriculture**

- Development of production optimization strategies concerning fertilization and plant protection
- Establishment of experimental programs
- Improvement of the grain quality – minimization of mycotoxin contamination
- Supervision of task forces
- Consulting services relating to the Austrian program to promote an environmentally friendly, extensive and habitat-protecting agriculture
- Implementation of different consulting programs concerning water protection
- Market and price reviews (newspaper and internet [www.ooe.lko.at](http://www.ooe.lko.at))
- Implementation of the integrated plant protection ([www.warndienst.at](http://www.warndienst.at))
- Soil protection programs
- Cooperation with upstream and downstream companies
- Participation and development of certified research projects (KOFUMA-research project)
- Establishment of niche and for minor crops (poppy, caraway, sorghum and oil pumkin)

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Translated into English by several Authors of the *Boden.Wasser.Schutz.Beratung*