

# Agricultural drought risk management in Germany:

## Insurance solutions and other public support measures

- Insurance as an instrument for managing agricultural risk is of increasing interest to European policymakers, especially in light of reforms in European Union Common Agricultural Policy.
- Germany, where a competitive insurance market operates, is one of the few European Union member states not subsidizing crop insurance.
- In Germany, various publicly financed ad-hoc emergency compensation measures are available for drought and other climate disasters.
- This factsheet describes agricultural drought risk management options in Germany, including insurance solutions and available public support measures.



## Agricultural drought risk management in Germany

In Germany, there is an established market of several competing crop insurance companies, focusing mainly on hail insurance solutions, which is the most widely insured peril in Germany (approx. 70% of all crops). While hail insurance was introduced in the 18<sup>th</sup> century, multi-peril insurance products were only recently established. Especially drought insurance is still in its infancy in Germany. Penetration rates are comparably low: in 2015 only 0.5% of all arable land was insured against accumulation risks, including drought (GDV, 2016).

In 2013, the insurance tax for weather risks such as hail, storm, heavy rainfall, frost and flooding was decreased from 19% to 0.03% of the sum insured. However, drought insurance products are still taxed at 19%, paid by the insured (GDV, 2016).

In contrast to many other countries, especially those in the European Union, there is no public support for agricultural insurance schemes in Germany. Premiums are not subsidized. Although the German government does not intervene in risk prevention and insurance solutions there are funds and emergency measures available both on national and state levels for compensating losses resulting from natural disasters (including earthquakes, avalanches, landslides, floods, tornados and hurricanes, volcanic eruption, and conflagrations) and equivalent adverse weather risks such as drought, frost, hail, heavy rainfall, and storms (BMEL, 2018).

Private insurance solutions		Public emergency measures
Vereinigte Hagelversicherung VVaG	Versicherungskammer Bayern	<b>Natural disaster equivalent adverse weather risks</b> maximal loss coverage of 80% for enterprises at risk of bankruptcy and yields reduced by on average 30%
		<b>Liquidity assurance</b> provided by "Landwirtschaftliche Rentenbank"
Greensurance	Munich Re	<b>Authorized utilization of ecological conservation areas</b> for animal feed and catch crops
		Additional possibilities for deferrals of taxes, social insurance and land lease

Figure 1: Available measures for agricultural drought risk management in Germany. Source: own design.

## Drought insurance solutions

As of January 2019, all drought insurance products available in Germany are index-based. Index-based insurance pays compensation if a set parameter -for example rainfall- deviates from a pre-specified level. In other words, crops are insured against events that cause losses, like drought, not against the direct loss in the field.

Insurance companies currently offering index-based drought insurance products are:

### (1) Vereinigte Hagelversicherung VVaG

Vereinigte Hagelversicherung VVaG (subsequently referred to as "Vereinigte Hagel") is the market-leading mutual crop insurance company in Germany. In 2015, 58.7% of the total arable land in Germany was insured by Vereinigte Hagel.

Drought index insurance is offered for winter wheat, winter oilseed canola, winter rye and silage corn. The index used at Vereinigte Hagel is based on the amount of soil water available for plants calculated as the difference between the field capacity and the permanent wilting point (=available field capacity). This value is determined and published by the German Meteorological Service.

As soon as the available field capacity falls below a certain threshold, drought losses can be claimed. Actual compensation payments are based on the difference between regional yields and a pre-defined yield threshold. Payouts are independent from individual yield losses. Drought insurance can be purchased additionally to a basic product (called "Secufarm/ Secufarm Garant"), which firstly covers hail and can be individually extended to frost, storm, heavy rainfall, and drought. Drought insurance however plays a minor role with only 0.1% of insured arable land (Vereinigte Hagelversicherung VVaG, 2018).

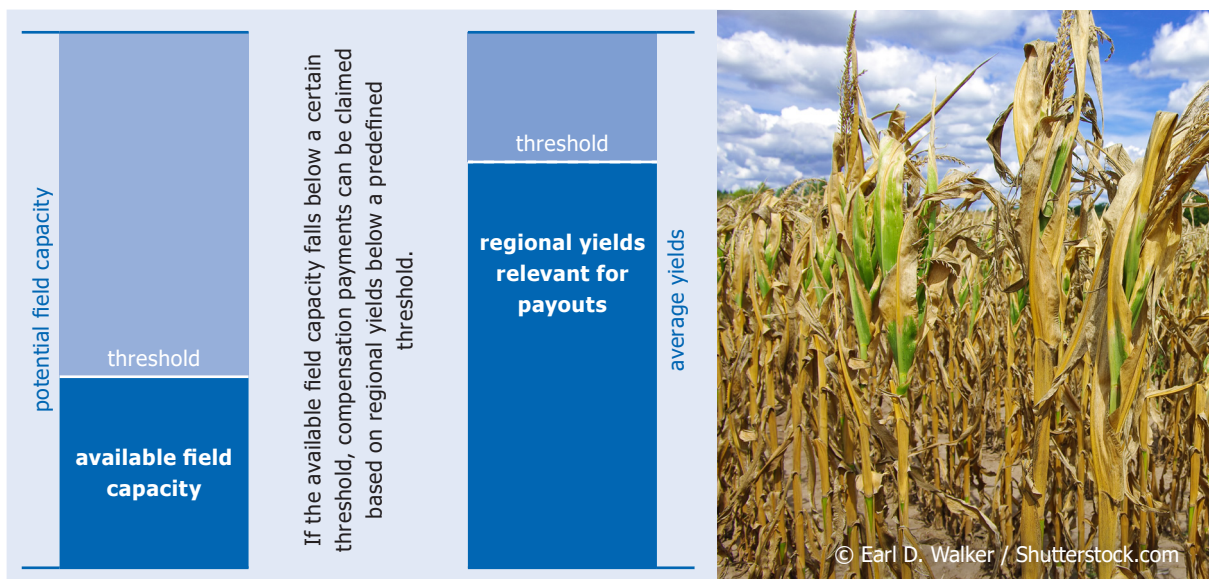


Figure 2: payout scheme for drought related losses at Vereinigte Hagelversicherung VVaG. Source: own desing.

## (2) Versicherungskammer Bayern

Versicherungskammer Bayern (subsequently referred to as "VKB") is much less specialized and offers a broader variety of products for companies, private households, as well as farms.

For crop insurance, VKB provides a multi-peril insurance product called "ErnteSchutz Vario". This product consists of basic modules (hail, storm, heavy rainfall, frost, and drought) and can be extended by more specialized, complementary modules for field crops affected by pests and plant diseases (acceptance, quarantine, and deterioration). The purchase of the core module "hail" is a prerequisite; the other modules can be purchased individually.

Drought insurance is available for grain, corn, beets, canola and potatoes. Insurance cover is provided from March 1<sup>st</sup> till September 30<sup>th</sup>. A critical precipitation level serves as the drought index. This critical precipitation level depends on crop specific water demand and is determined for each crop at rural district level. As soon as precipitation amounts fall below the critical level, compensation payouts can be claimed. The monetary extent of the insurance cover is arbitrary. Lump sum compensation is paid to the amount of the contracted insurance sum for each affected plot (VKB, 2018).

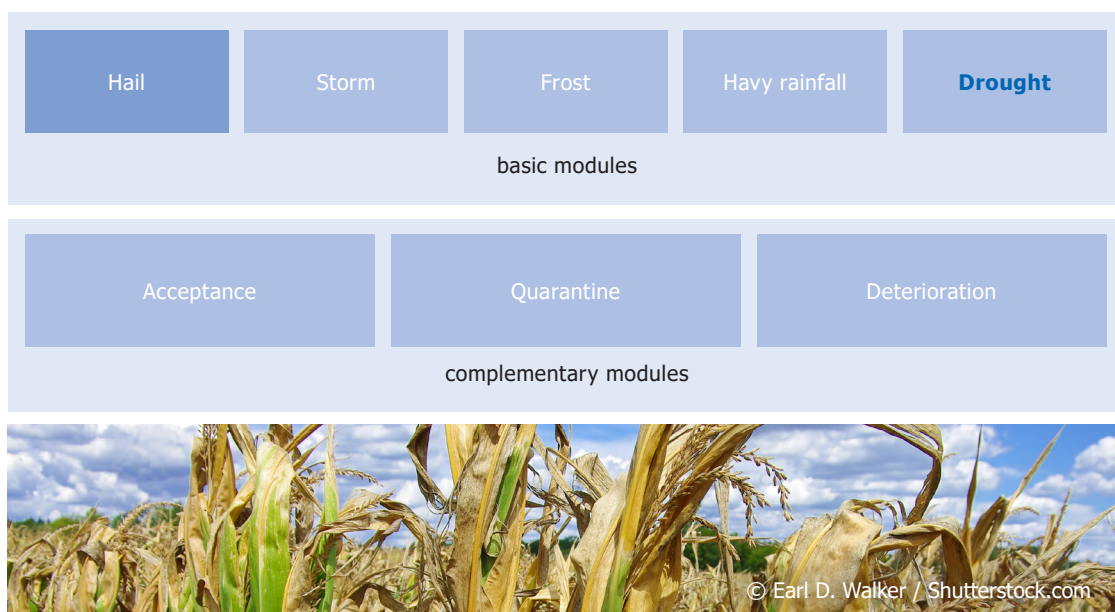


Figure 3: available crop insurance products at VKB. Adapted from [www.vkb.de](http://www.vkb.de).

While Vereinigte Hagel and VKB dominate the market, due to the high frequency of climatic extremes and increased drought damages in recent years, other companies offering drought insurance products are emerging, including:

- Müncher und Magdeburger Agrarversicherung AG
- Greensurance, non-profit foundation

Drought insurance products provided by these insurance companies are not yet well established, and therefore detailed information is not available.



## Public emergency measures

According to the Federal Ministry of Food and Agriculture, operational risk management is primarily the responsibility of the (agricultural) enterprise itself and therefore (agricultural) insurance products are not publicly subsidized. The German government is willing to support all sectors of the economy equally. They argue that ad-hoc payments/measures can become operative without causing high administrative cost compared to an insurance program (Agroinsurance, 2009).

In the event of drought, the following publicly supported ad hoc emergency measures can be taken (BMEL, 2018):

### (1) Payments for natural disaster-equated adverse weather risks

While flooding and hurricanes are considered as natural disasters, drought, frost, and heavy rainfall fall under “natural disaster-equivalent adverse weather risks”. Losses resulting from these exceptional weather events can be covered to a maximal extent of 80%.

In accordance to constitutional rules regarding the division of powers between national and state governments in Germany, support for natural disaster-equivalent adverse weather risks is the responsibility of states. Post-drought financial support can be granted to:

- Small and medium agricultural holdings,
- Agricultural holdings experiencing yield reductions of at least 30% compared to three previous years and
- Agricultural holdings at risk of bankruptcy. For that purpose, testing of means is needed.

If a weather event is classified as an “event of national magnitude”, the federal government can -in addition to state measures- support holdings of the agricultural and forestry sectors. In such cases, the federal government contributes 50% of the overall coverage of resulting losses, the remaining 50% are covered by states. In order to be classified as a national event the overall circumstances on national level need to be evaluated.



## (2) Liquidity assurance

The German federal government provides post-disaster financial support to farmers in the form of liquidity assurance through the „Landwirtschaftliche Rentenbank “. This public-law institution offers specialized loan programs to farmers for the improvement of agricultural structures. Both standard promotional loans for agriculture and rural areas as well as special loans for specific promotional purposes and assistance measures are offered.

The liquidity assurance is granted to agricultural holdings suffering from exceptionally high losses in revenue or cost increases due to weather extremes, plant or animal diseases. The program is offered at demand in critical situations, for example droughts.

## (3) Usage approval of ecological conservation areas

In cases where drought leads to insufficient forage yields, state governments may permit the mowing of ecological conservation areas in order to increase fodder availability. In the event of a drought emergency, these conservation areas may additionally be used for growing catch crops, also for fodder purposes.

In addition to the above described measures, the German government may also grant early payouts of direct payments, and deferral of taxes, social insurance payments and land lease payments to decrease on-farm fixed costs in the event of a drought.

### The German agriculture and forestry sector

According to the Federal Ministry of Food and Agriculture, in 2016 Germany had 275.4 thousand agricultural holdings. The total agricultural land amounted to 16.7 million ha or 51.1% of Germany's area, resulting in on average 60.5 ha arable land per farm. 21% of all farms hold less than 50 ha. The majority (70.6%) of all agricultural land is used for arable crops, 28.2% is covered by permanent grassland and 1.2% by permanent crops (e.g. wine, hop, orchards,...). 48% of all individual holdings operate full-time, whereas 52% rely on an additional source of income (BMEL, 2017).



## Glossary

**Direct payments:** Direct payments are government-financed contributions for public services performed by farmers, e.g. measures contributing to environmental protection.

**Field capacity:** the amount of water a soil can hold against gravitational force 2-3 days after water saturation of the soil.

**Multi-peril insurance:** Multi-peril insurance solutions do not cover damages resulting from single risks but bundle coverage for multiple risks.

**Mutual insurance:** A mutual insurance company is owned entirely by its policy holders. Any profits are kept within the company or refunded to policy holders by means of dividend distributions or reduced premiums.

**Permanent wilting point:** the minimal amount of soil moisture a plant requires not to wilt. The actual value depends not only on the soil type and respective pore structure, but also on the crop grown and its water demand and root physiology.

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## Contacts

 International Institute for  
Applied Systems Analysis  
IIASA [www.iiasa.ac.at](http://www.iiasa.ac.at)

Marlene Palka  
Email [palka@iiasa.ac.at](mailto:palka@iiasa.ac.at)  
Tel +43 2236/807 619

Susanne Hanger-Kopp  
Email [hanger@iiasa.ac.at](mailto:hanger@iiasa.ac.at)  
Tel +43 2236/807 508

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 **FARM**  
Subsidized drought insurance and its alternatives

FARM – Farmers and Risk Management: Examining subsidized drought insurance and its alternatives. FARM commenced in May 2016 as a three-year research project funded by the Austrian Climate Research Program (KR15AC8K12597). In the light of increasing climate and market risks, the project examines agricultural insurance as part of integrated drought risk management options, particularly in Austria. FARM has an international component comparing agricultural risk management arrangements in several countries.

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