

Excerpt from the Bio Suisse Standards

Water resources management

Based on Bio Suisse mission statement in part I.

Water is a valuable natural resource that is not infinitely available. Farming operations that are certified according to Bio Suisse standards use water sparingly and efficiently to prevent negative impacts on humans and the natural environment. These include disturbances to natural cycles, negative impacts on natural flora and fauna, as well as adverse effects on the quality and quantity of groundwater and surface water and on the quality of harvested products.

1. General requirements

The requirements as per sections 3.6.1.1 to 3.6.1.3 in part V must be met by all farming operations that are certified according to Bio Suisse standards, regardless of whether the operation is located in an area of scarce or sufficient water resources.

1.1 Quality of groundwater and surface water

The quality of groundwater and surface water must not be impaired by effluents or wastewater from agricultural or processing activities, company housing, or management measures such as the storage of farmyard manure.

1.2 Irrigation and product quality

Irrigation water must not impair the quality of harvested products. This especially applies to irrigation water that flows through non-organic plots prior to being used on an organic farming operation (e.g., in paddy fields) or that could be contaminated by pathogenic bacteria, parasites or pesticides.

Water or product analyses must be furnished if there is a high risk of contamination or if required by the BSO certification body.

1.3 Irrigation and adverse effects on soil fertility

Irrigation must not have an adverse effect on the natural fertility of the soil (e.g., through salinization or erosion). Preventive measures must be taken if there is a heightened risk.

2. Use of water in areas with scarce water resources

Farming operations in areas with scarce water resources must meet additional requirements.

2.1 Definitions

Bio Suisse uses two definitions for areas with scarce water resources.

As soon as one of the two following definitions is true for a region, the additional requirements shall apply.

- a) Areas in desert or steppe climates (climates classified as BWh or BS according to the Köppen-Geiger climate classification system).

This rule will be progressively implemented, starting with areas classified as BW*. Farming operations located in areas classified as BS must comply with these requirements at a later date. The areas in question can be identified via the 'World map of the Köppen-Geiger classification' created by the Oak Ridge National Laboratory: https://webmap.ornl.gov/ogc/dataset.jsp?ds_id=10012.

- b) Areas affected by water stress, which occurs when high water consumption (due to natural and human factors) exceeds the availability of renewable sources of water. Areas whose water shortage is covered by transferring water from other water catchment areas may also be defined as experiencing water stress.

Operations are classified on the basis of the 'Baseline Water Stress' (BWS) map (available at: www.wri.org). The 'Aqueduct Water Risk Atlas' is a classification tool on a global scale (see: https://wri.org/applications/aqueduct/water-risk-atlas/#/?advanced=false&basemap=hydro&indicator=w_awr_def_tot_cat&lat=30&lng=-80&mapMode=view&month=1&opacity=0.5&ponderation=DEF&predefined=false&projection=absolute&scenario=optimistic&scope=baseline&timeScale=annual&year=baseline&zoom=3). As a first step, Bio Suisse will classify areas showing a BWS value of 80% or higher as areas affected by water stress.

All Bio Suisse decisions about whether a farming operation is situated in an area with scarce water resources are backed by solid scientific evidence.

2.2 Water resources management plan

Farming operations and producer groups in areas with scarce water resources must devise a water resources management plan. The water usage plan must contain a risk analysis, a plan of action and up-to-date records. The farming operations or producer groups concerned must analyse the risks to which they are exposed in connection with water usage and take measures to reduce or avoid these risks. The water resources management plan must accurately represent the current situation of the farming operation or producer group. A template for a sustainable water resources management plan is available on the Bio Suisse website.

The completed and signed water resources management plan must be furnished at inspections.

2.3 Irrigation systems

In areas with scarce water resources, only irrigation systems that use water sparingly may be used (e.g., drip or centre pivot irrigation systems and mini sprinklers). Any use of less efficient systems must be justified during inspections (e.g., if small farmers cannot bear the costs of investing in drip irrigation systems), and the Label Commission 'Import' (LCI) can grant derogations in exceptional cases.

2.4 List of water sources, irrigation facilities and amounts used

Farming operations in areas with scarce water resources must furnish a map on which all sources of water and all irrigation facilities used by the farm are indicated.

All quantitative information on water consumption (m³ irrigation water per hectare of irrigated area annually), as well as information on the origin of the water (ground or surface water, water from desalination plants, recycled water), on the water rights (private access or communal access) and information on the local climate and the quality of the irrigation water in accordance with the parameters defined by the Food and Agriculture Organization of the United Nations (FAO) (<http://www.fao.org/3/T0234E/T0234E01.htm#ch1.4> MAIN TOPPICS ALL LAND AND WATER RESOURCES PUBLICATIONS KEYWORD: WATER QUALITY FOR AGRICULTURE 1.4 WATER QUALITY GUIDELINES TABLE 1: GUIDELINES FOR INTERPRETATIONS OF WATER QUALITY FOR IRRIGATION) are attached to the water resource management plan in the form of a table.

2.5 The groundwater level below wells must be measured and recorded at least once a year. Legality of all water abstraction

Water abstraction must comply with applicable national and international laws and regulations. Bio Suisse may demand proof of the legality of water abstraction as a prerequisite for certification.

2.6 Cooperation with relevant stakeholder groups (water stewardship)

With regard to water management, BIO SUISSE ORGANIC producers should identify relevant stakeholder groups and actively work with them to achieve progress in the sustainable use of water, both at the level of the individual operations as well as at the regional level (e.g., watersheds). The identified stakeholder groups, the sustainability efforts of the producers and all planned or completed optimization measures must be documented in the water resources management plan.

2.7 Additional requirements for the use of water in areas with a desert climate

The use of water in areas with a desert climate (climate category BWh) is only permitted under certain conditions:

- Irrigation may only take place at night and in the early morning hours.
- Annual crops may only be cultivated during the winter season.

Bio Suisse can grant derogations for farming operations in traditional cultivation zones. Traditional cultivation zones comprise land, which has been cultivated year-round for at least 50 years.

3. Use of nonrenewable water resources

The use of nonrenewable (fossil) water resources for agricultural production is only permitted if credible documentation can be furnished in the water resources management plan that the abstraction poses no serious ecological or socio-economic risks. The analysis must take account of the entire water catchment area and all aquifers, and include possible ecological and social consequences for other regions or countries. Both short-term and long-term risks must be analysed. The water resources management plan and the documentation must be submitted to Bio Suisse for assessment prior to certification.