**Winter/ spring wheat**

<http://www.fao.org/nr/water/cropinfo_wheat.html>

1 Precipitation (Depth and density of rooting are affected by water, nutrients and oxygen in the soil.)

2 Humidity ( relatively tolerant to a high groundwater table; depth of groundwater of 0.6 to 0.8 m can usually be tolerated, and for clay 0.8 to 1 m.)

3 Temperature (strong cold tolerance, lower heat tolerance than soy bean)

**Soybeans**

<http://eap.mcgill.ca/CPSO_3.htm>

1 Precipitation (The seed-filling period is the most critical in the life of the soybean plant with regard to yield. If weather conditions are adverse, such as drought stress or leaf loss from hail, yields will be cut severely.)

2 Humidity (Ideal soil for peak soybean production is a loose, well-drained loam)

(Yet many of today's agricultural practices tend to degrade soil and produce the tight, crusty, lifeless conditions mentioned earlier. The overuse of synthetic salt fertilizers and anhydrous ammonia tends to reduce soil life and humus, leading to hard soil. Some of the herbicides and pesticides also do the same thing. Too much field traffic and heavy machinery compact soil. Even using the wrong kind of lime may in some cases lead to soil degradation.)

3 Temperature

**Corn**

<http://www.clemson.edu/extension/rowcrops/corn/guide/environmental_conditions.html>

<http://homeguides.sfgate.com/ideal-climate-soil-corn-growth-37426.html>

1 Humidity

2Temperature

(The optimal average temperatures for corn growth range between 68 and 73°F. However, the optimum temperature varies over the corn growing season and between daytime and nighttime.

Corn can survive short exposure to low and high temperatures of 32 and 112°F, respectively. Cooler temperatures slow down the growth of plants. Growth decreases once temperature drops to about 41°F. Temperatures between 32 and 28°F have very little effect on corn. Extremely low temperatures cause freeze damage, the severity of which will depend on the temperature, duration, and corn growth stage. Extended low temperatures at seedling stage that reduce the soil temperatures to below freezing two inches below the surface may kill corn.)

3 Precipitation

**Cotton**

<http://www.cotton.org/tech/ace/growth-and-development.cfm>

<http://www.organiccotton.org/oc/Cotton-general/Plant-and-fibres/Plant-requirements.php>

(Cotton is grown between latitudes of 37° north and 30° south in temperate, subtropical and tropical regions and on every continent.

Ideal conditions for the cotton plant are:

Long vegetation periods (175 to 225 days) without frost.

Constant temperatures between 18 and 30°.

Ample sunshine and fairly dry conditions.

A minimum of 500 mm of water between germination and boll formation.

Deep, well-drained soils with a good nutrient content.)

1Temperature

2Precipitation

3 Humidity

**Strawberries**

http://www.haifa-group.com/knowledge\_center/crop\_guides/strawberry/growing\_strawberries/

1 Temperature

Day-neutral strawberries will flower and set strawberries whenever the temperature is in the range of 200C to 290C (350F to 850F). 290C is considered the upper limit at which day-neutral strawberries will produce flowers. When temperatures descend gradually the plant can tolerate even temperatures as low as -60C (210F), but it will die when temperatures fall to -120C (100F).

2 Humidity

Development and spread of powdery mildew is favored by moderate to high relative humidity and temperatures of about 150C to 270C (600F to 800F). Unlike most other fungi that cause plant disease, powdery mildew does not require free water for spores to germinate and infect. In dry years, when most other diseases are not a problem, powdery mildew can represent a very serious danger.

Development of Angular leaf spot (bacterial blight) is favored by moderate to cool daytime temperatures around 200C (680F), a low night-time temperature (near or just below freezing), and high relative humidity. High RH also has a deleterious effect on the opening of the pollen sacs of the stamen. It is highly important, therefore, to enable good aeration of the plants growing in protected structures during the flowering season.

3 Precipitation