Hop report - Saaz fine aroma hops

Crop 2009 – January / April 2009 (Saaz region)

Weather condition – January / March 2009

Average temperature (°C)	2009	2008	30 years average	Diff.
January	-3,4	2,0	-2,0	-5,4
February	0,5	3,4	-0,2	-2,9
March	5,2	4,2	3,6	+1,0
Summary 1st Trimester	2,3	9,6	1,4	-7,3

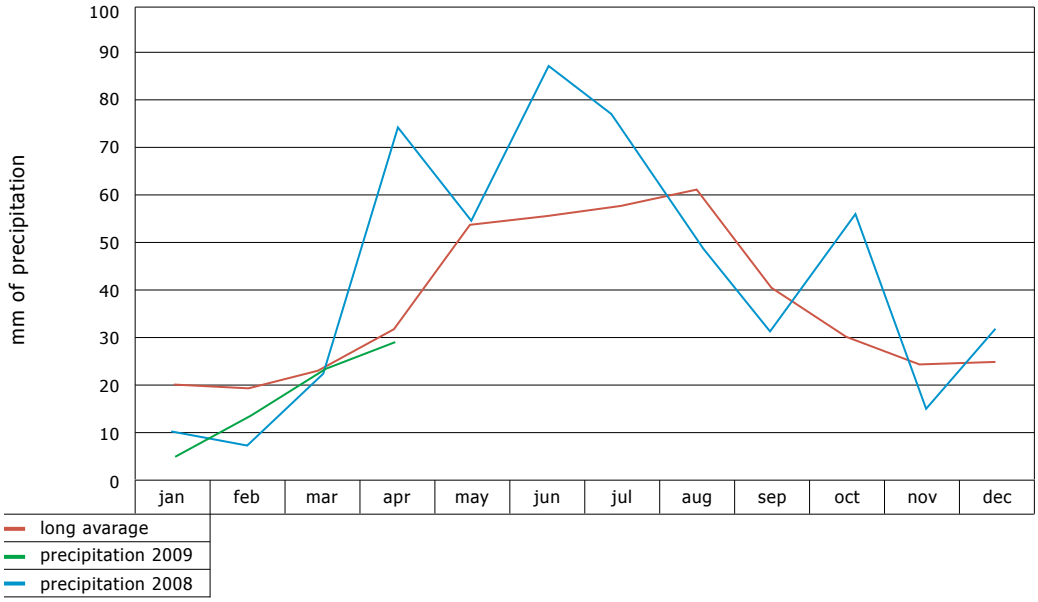
Total precipitation (mm)	2009	2008	30 years average	Diff.
January	6,6	10,8	20,0	-4,2
February	13,4	7,2	19,0	+6,2
March	23,0	22,8	23,0	+2,2
Summary 1st Trimester	45,0	40,8	62,0	-4,2

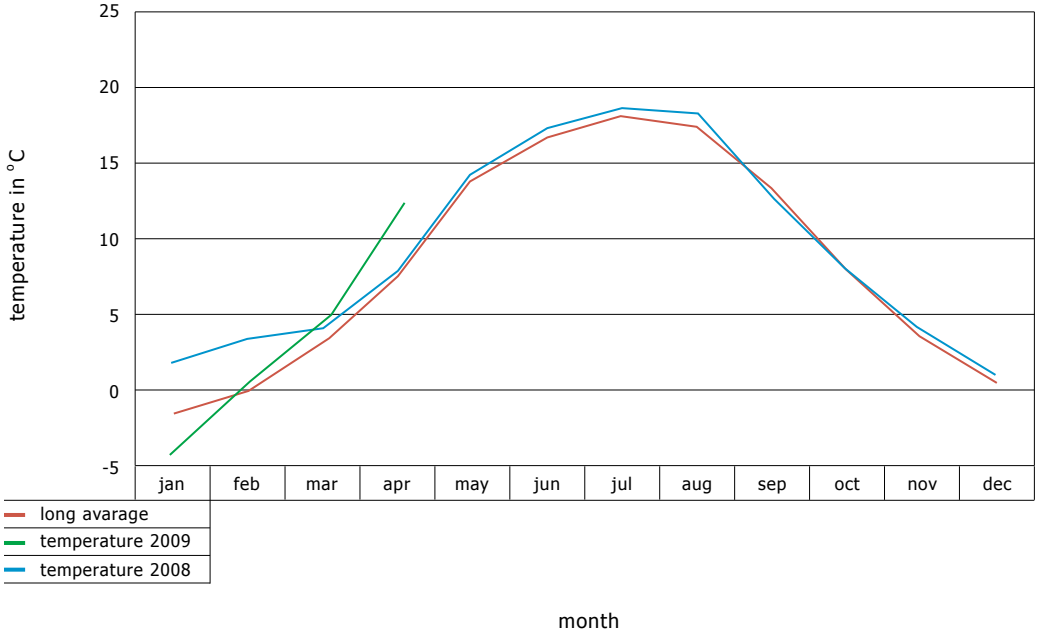
The level of precipitations during first two months of 2009 was deeply below long-term average (1961-1990). Precipitations in January 2009 reached only 33% and in February 70,5% of long-term average. On the other hand March 2009 was slightly richer by precipitations than the same month of previous year and long term average. However, total rainfalls in the first trimester correspond to 72,6% of long term average only. The temperatures of the first three months were influenced by relatively cold January, when the average slipped below long term average and deeply below the figures of January 2008. The temperatures in February were on the level of long term average and only March was expressively warmer.

Weather condition – April 2009

Temperature & precipitation in April	2009	2008	30 years average
Average temperature (°C)	12,2	8,8	8,5
Precipitation (mm)	30,0	74,8	32,0
Total precipitation (mm) JAN-APR	75,0	115,6	94,0
Max. temperature (°C)	24,8 (27.4.)	23,1 (28.4.)	
Min. temperature (°C)	-3,2 (1.4.)	-1,6 (17.4.)	
Max. precipitation (mm)	15,4	11,6	
Number of dry days	23	12	

April temperatures follow the March development. The temperatures have been exceeding the average practically since the first day. With a certain exaggeration we can say, that winter turned to summer without usual interval of springtime. We consider this development very negative as it caused fast grow of the vegetation. Although the precipitations were normal in Zatec (Saaz) in April, great contrasts have been recorded in the Saaz region as a whole, as well as in other production regions (Auscha, Terschitz) – in some localities the precipitations reached just few millimetres. Last year we appreciated the April weather as very favourable for growth of hops as well as other crops, this year we are at a loss as far as the weather is concerned.





Spring works and growth report

The development of climatic conditions within the first trimester and April 2009 was not helpful to the growth of vegetation, according to our opinion. Cumulative deficit of the precipitations on one side and record breaking temperatures on the other side, especially in April, have caused the acceleration of spring works on hop gardens. We estimate that compared to previous years the growth is speeded by 10 to 14 days up. The pruning of hops has been carried out continuously thanks to favourable conditions for this operation (low number of rainy days) and the farmers could adjust the work flow according to their needs. In majority of the hop gardens the leading hop wires have been strung up and fastened until the end of April. The advance of the vegetation influenced especially the beginning of the training of hops, which started already within the last decade of April. First the plantations of hybrid varieties have been trained, but view to growth of hops it was necessary to start to train also the Saaz semi-early red-bine hops in many gardens.

Hop training already in April

Not even in this year the beginning of flyover of aphides migrantes alatae from the primary host plants of Prunus gen. was recorded up to now. View to high temperatures nevertheless the first winged aphides can be expected on hops already by the end of the first decade of May. The occurrence of red spider mite (Tetranychus urticae Koch.) has not been ascertained up to now, although this pest can be expected earlier than usually, view to the progress of weather and vegetation. As far as downy mildew of hops (Pseudoperonospora humuli Myi et Takah.) is concerned, it is recommended to treat the gardens of hybrid varieties and virus free verieties of hops by fungicide Alliete 80 WP, always when the spiky sprouts are discovered.

Saaz, May 5, 2009
Jaroslav Hájek, Irena Nováková

Chmelařstvi Cooperative Žatec

Hop report - Saaz fine aroma hops

Crop 2009 – May 2009 (Saaz region)

Weather condition – May 2009

Temperature & precipitation in May	2009	2008	30 years average
Average temperature (°C)	14,1	13,9	13,4
Total precipitation in May (mm)	85,6	54,4	54,0
Max. temperature (°C)	28,7 (26.5.)	30,7 (31.5.)	
Min. temperature (°C)	0,2 (5.5.)	1,9 (4.5.)	
Highest precipitation in one day (mm)	15,0	19,4 (14.5.)	
Total precipitation Jan - May (mm)	160,6	170,0	148,0
Number of dry days	12	22	

Compared to long-term average the month of May 2009 was slightly warmer, but the difference in precipitation's level was more expressive. This difference was caused by rainfalls that came between 26th May and 29th May. The aggregate precipitations within the last decade of the month correspond to the long-term average figure per whole month. Unfortunately, heavy rains brought also hails and the Louny district was the most stricken one in frame of whole country. Within the Saaz Hop-growing Region the hop gardens in following municipalities were affected: Žatec, Staňkovice, Tuchořice, Hřivice, Lipno, Markvarec, Hořany, Zbrašn, Lšťany, Stebno and Mukoděly. Approximately 250 hectares of the gardens were damaged (about 15 producers), out of this figure about 100 hectares have been harmed heavily, i.e. the vegetation tops and part of leaf area were destroyed. This situation is practically the carbon-copy of previous year's events, just the number of stricken farmers was lower in 2008.

Growth report

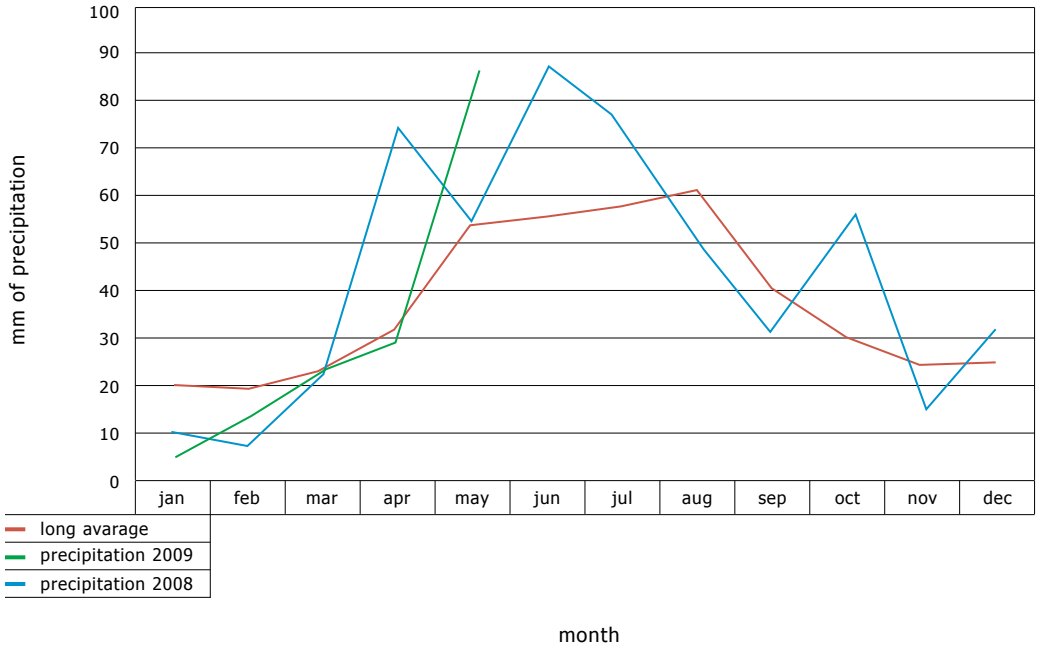
Lower temperatures within the first decade of May slowed down the growth of hops. The training passed without any problems. Compared to previous years the number of season workers was sufficient. It could be observed, that the offer exceeded the demand. The training finished until 20th May in majority of hop gardens, and the quality of work was very good. Immediately after the training has been completed, the farmers ploughed majority of the garden again in order to heap up the soil closer to the roots of plants. In our April Report we estimated that the growing had been advanced by 10 to 15 days, now we state that it is advanced by 5 to 7 days. The health state of hops is satisfactory. Although by the end of the second decade of the month the first aphides (Phorodon humuli Schrank) have appeared, their occurrence was not so frequent in order to force the farmers to apply insecticide against this pest. Colder weather, especially during the first decade of the month, was not favourable towards the development of red spider mite (Tetranychus urticae Koch), such that the producers worried just about monitoring and protection against downy mildew of hops (Pseudoperonospora humuli Myi et Takah.).

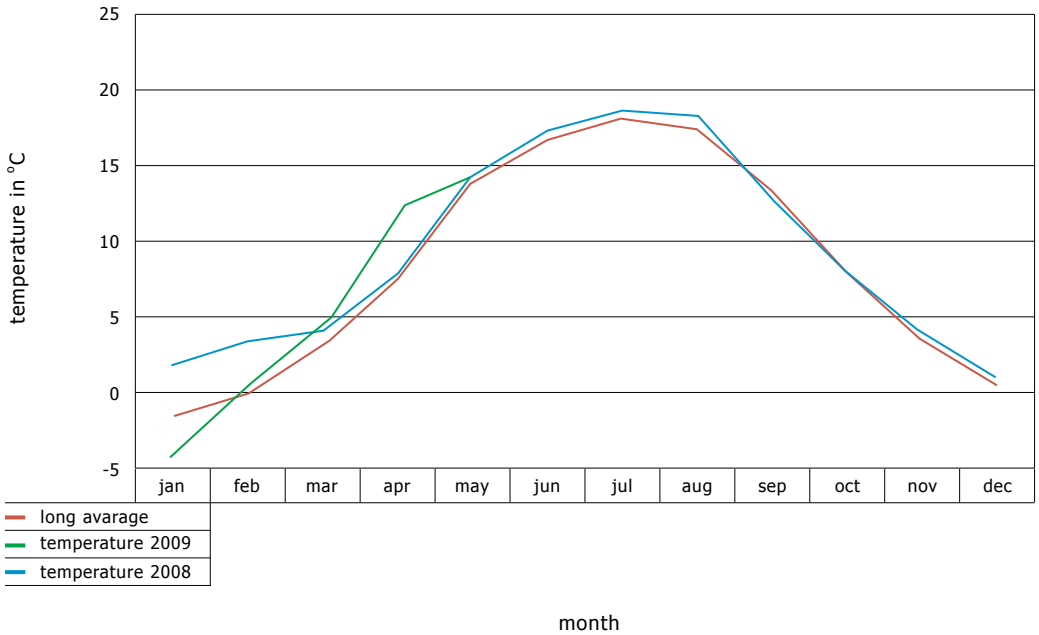
Other information

Variety	Saaz Region (ha)	Auscha Region (ha)	Trschitz Region (ha)	Czech Republic (ha)
Saaz	3 456	596	575	4 627
Agnus	58	0	0	58
Bor	6	7	0	13
Premiant	165	51	77	293
Sládek	192	8	75	275
Fuggle	0	0	5	5
Magnum	2	6	2	10
Others	20	1	3	24
Total	3 899	669	737	5 305

The decrease of the acreage in comparison with previous year equaled 30 hectares. In case of Saaz Semi-early Red-bine hops the areas decreased by 111 hectares, other varieties either occupy the same area or slightly increased in acreage (Premiant and Sladek). 249 hectares of new gardens were planted out in 2009 (4,7 % of total), of it 168 hectares were planted with Saaz Semi-early Red-bine variety. For comparison, in 2008 it was 210 hectares and in 2007 196 hectares. Nowadays there are 135 hop producers in the Czech Republic, 91 of them being active within Saaz region, 31 in Auscha region and 13 in Terschitz region.

Source: Central Institute for Supervising and Testing in Agriculture, Brno, Department of Permanent Cultures - Hop Division Zatec, ing. Vladimr Barborka, Head of Department





Leaf area demaged by hailstorm

Broken tops of hop plants after the hailstorm

Cultivation of hop fields

Saaz, June 2, 2009
Jaroslav Hájek, Irena Nováková

Chmelařstvi Cooperative Žatec

Hop report - Saaz fine aroma hops

Crop 2009 – June 2009 (Saaz region)

Weather condition – June 2009

Temperature & precipitation in June	2009	2008	30 years average
Average temperature (°C)	15,7	17,5	16,7
Total precipitation in June (mm)	54,4	86,8	56,0
Max. temperature (°C)	26,8 (14.6.)	32,6 (22.6.)	
Min. temperature (°C)	1,4 (6.6.)	4,6 (14.6.)	
Highest precipitation in one day (mm)	9,6 (15.6.)	38,2 (25.6.)	
Total precipitation Jan - June (mm)	215,0	256,8	204,0
Number of dry days	12	4	

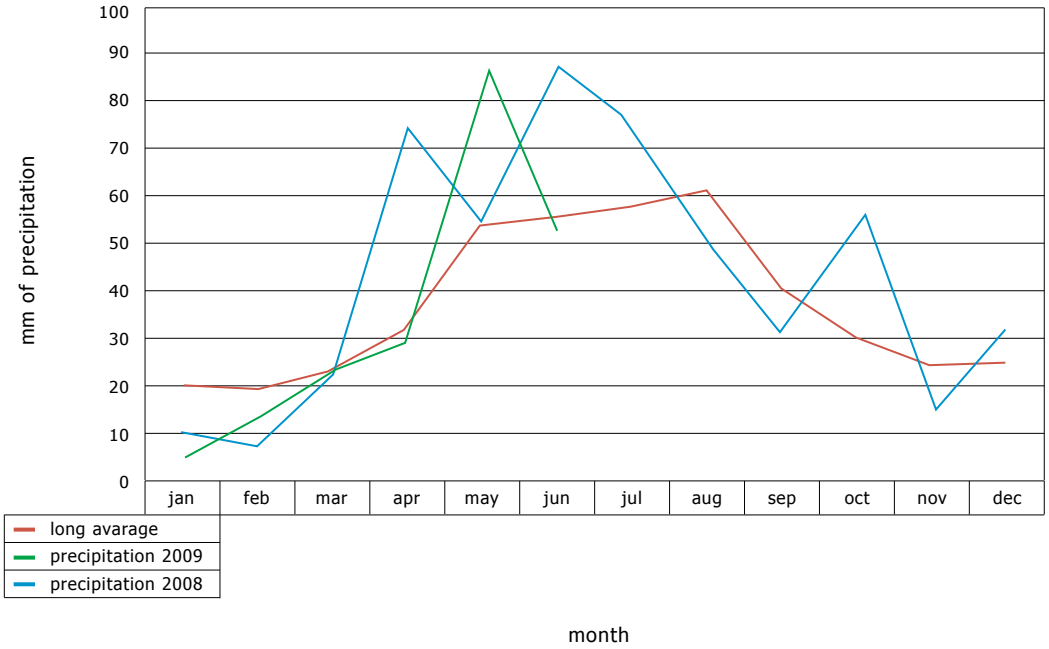
This June was characterized by rainy and colder weather. It was cold especially within the first two decades of the months. The temperatures increased in the third decade. The warming in night-time was very important for the growth of hops. Although the rainy weather caused the overflowing of the river banks and floods, the hop growing areas and therefore the hop gardens were not affected. In the last period the rainfalls are always very local and the precipitation totals differ larger between the localities, according to our meteorological stations the precipitation total in Žatec is 215 mm, in Steknik just 5 km from Žatec – 290 mm, in Liběšice in Auscha – 400 mm and in Kněževes in Rakovnik district – 200 mm.

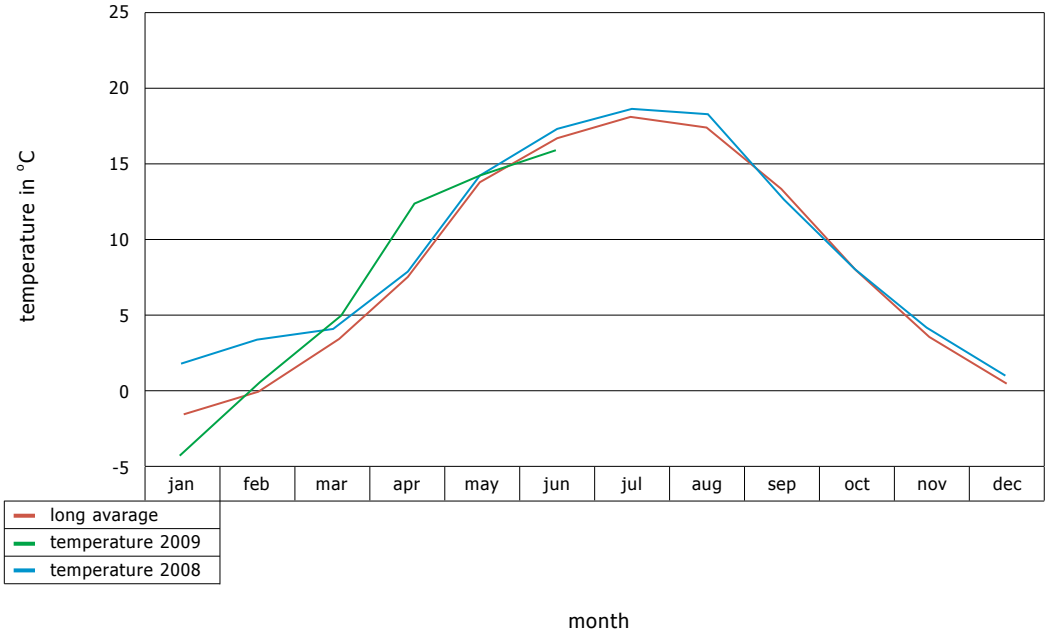
Growth report

The growth of hops was inexpressive due to lower temperatures in the first half of the month. We can say that hops aligned their development and in case of later cuts there were fears that these hops will not reach the height of the trellis constructions until the end of the month. Within the last decade of June nevertheless the stretching growth of the plants was more intensive thanks to favourable night-time temperatures, and majority of the gardens reached the top of the trellis. The hops are still growing, what is a positive fact. The side shoot formation is positive and the first blooming have already appeared. In light of the growth we appreciate the state of hops as very good.

Health state of hops

The health state of hops is very good. The aphides (Phorodon humuli Schrank) did not appear markedly even in June. Notwithstanding the affussion with the preparations based on imidacloprid, predominantly Confidor 70 WG, eventually Chess 50 WG, have been applied before the end of month. On the gardens, where occurrence of red spider mite (Tetranychus urticae Koch) had been already detected, the preparation Nissorun 10 WP was used in majority of cases. The emergence of downy mildew of hops (Pseudoperonospora humuli Miy et Takah.) corresponded to the development of the weather and at the moment it is recommended to treat the hops by preparations Ridomil Gold Plus 42,5 WP, Ridomil Gold Combi Pepite, Aliette Bordeaux and Ortiva. The occurrence of powdery mildew (Sphaeroteca humuli (DC) Burr) was not ascertained.





First blossom in hop garden

Healthy hop plants at the end of June

Saaz, July 1, 2009
Jaroslav Hájek, Irena Nováková

Chmelařstvi Cooperative Žatec

Hop report - Saaz fine aroma hops

Crop 2009 – July 2009 (Saaz region)

Weather condition – July 2009

Temperature & precipitation in July	2009	2008	30 years average
Average temperature (°C)	18,8	18,2	18,0
Total precipitation (mm)	58,0	77,2	59,0
Max. temperature (°C)	31,6 (17.7.)	32,3 (16.7.)	
Min. temperature (°C)	7,8 (27.7.)	6,3 (31.7.)	
Highest precipitation in one day (mm)	18,6 (18.7.)	24,2 (03.7.)	
Total precipitation Jan - July (mm)	273,0	334,0	263,0
Number of dry days	12	12	

Above table of temperatures and precipitations makes evident that July 2009 was rarely aligned with long-term average as well as the same month of the previous year, as far as the temperature level is concerned. By contrast to July 2008, when the precipitations exceeded the average by more than 30%, the month elapsed was also normal in terms of rainfalls. Precipitations in July were of stormy character, too, and therefore the month volume of rainfall according to the data measured in different meteorological stations show substantial differences, although the stations are distant just several kilometres (Žatec meteorological station recorded 58 mm and Steknik station measured 82, 6 mm). A strong windstorm blew over the country on 23rd July and also the hop-growing areas were affected in different grade of intensity. This windstorm was accompanied also by rains, with 2, 0 to 10, 0 mm of precipitations. In consequence of these climatic factors about 104 hectares of hop gardens have fallen down. Out of this number 39 hectares were destroyed in Saaz region, 45 hectares in Auscha region and 20 hectares in Terschitz region.

Growth report

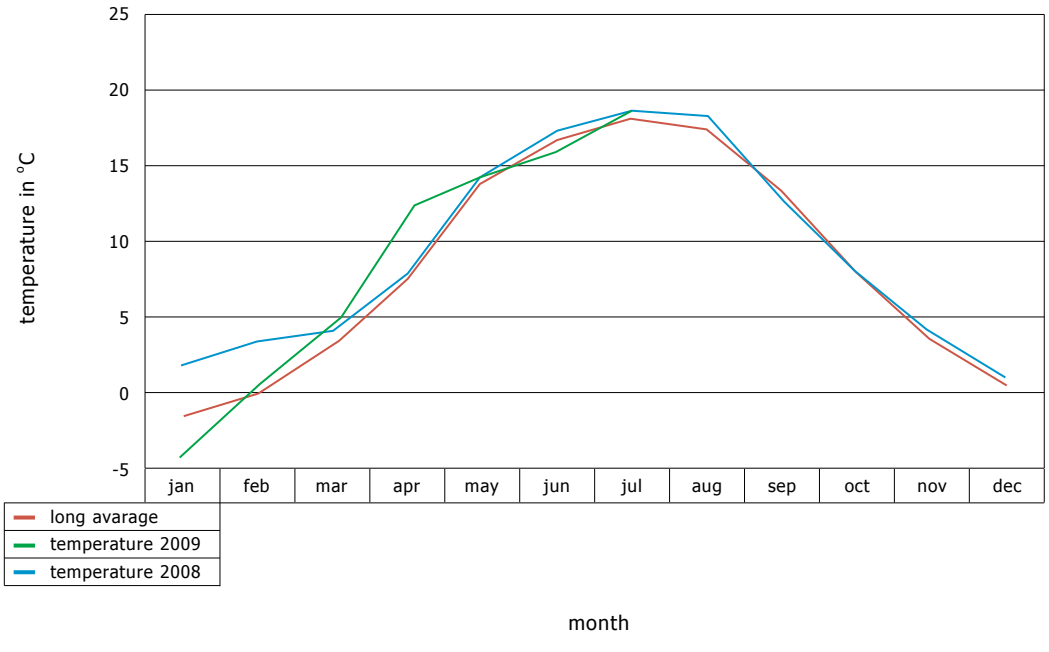
Very nice state of growth of hop gardens was affected by unfavourable climate conditions within the period between 23rd July and 25th July, when the above mentioned hop gardens have fallen down. View the fact, that the grade of ripeness in this period is still very low; it means that practically 100% of the production on respective gardens were depreciated. Another negative consequence is relatively high percentage of fallen hop crowns (hop plants). It is rather difficult to estimate the percentage of broken crowns, nevertheless according to the estimation of the farmers and based on our own appraisal, we can say, that the share of fallen hop crowns reaches 2% to 3% of the total, what represents another 150 hectares of damaged hop gardens. In some gardens we ascertained that the share of fallen crowns exceeds 20% to 25% out of total number of plants. These plants will be strung up again; nevertheless it will require additional costs and the need of further labour force. The breaking off the lateral shoots, damaged leaf area and damaged cones will vent itself as collateral wastage of the bulk production of the crop 2009.

The flowers appeared on some hop gardens already by the end of June and beginning of July, although full setting of flowers could be seen within the first decade of July, in majority of cases. In spite of the blossoming the hop plants did not stop lengthening growth and view to sufficient moisture reserves it continued to grow until middle of July, at least. That is why we evaluate the habitus of hops in a described period as one of the bests within last several years. Considerable irregularity of cones creation is a characteristic feature of this crop – the unlevelled size of cones is perceptible not only when comparing individual hop gardens, but also within the hop vines of the same garden. The same can be stated also about the creation of lateral shoots. For the result of the harvest It will be very important, whether and how the upper levels of the plants, where the hops is blossoming only now, will create the hop cones. However, already now we can expect that the hop production in the Czech Republic will reach the level of long-term average, at least. Beginning of hop gathering can be expected between 17th and 22nd of August 2009.

Hop phytosanitary information

From the point of view of health keeping of the hops, the situation in July was rather complicated, as far as the spongioid contagion is concerned. On majority of the hop gardens it was necessary to apply one more spraying against downy mildew of hops (Pseudoperonospora humuli Miy et Takah.) compared to the normal year. Due to humid weather some gardens were treated also against powdery mildew (Sphaeroteca humuli (DC) Burr.), as prevention. The protection against hop aphid (Phorodon humuli Schrank) was performed quickly and effectively. Smaller problems with the liquidation of this pest were only in Terschitz region. Otherwise it was sufficient to apply just a basic spraying by preparative Confidor 70 WG or by similar preparative. Within described period it was necessary to pay higher attention to the occurrence of red spider mite (Tetranychus urticae Koch). Warm weather within last days of July creates good conditions for reproduction of surviving adult individuals of this pest. Special regime of protection of hops is required by fallen hop gardens.

We still evaluate the health state of the gardens as satisfactory.



Fallen hop gardnes after the storm on 23rd July 2009

Hop protection against fungal diseases

First hop cones in hop gardens

Saaz, July 31, 2009
Jaroslav Hájek, Irena Nováková

Chmelařstvi Cooperative Žatec

Hop report - Saaz fine aroma hops

Crop 2009 – August 2009 (Saaz region)

Weather condition – August 2009

Temperature & precipitation in August	2009	2008	30 years average
Average temperature (°C)	19,3	18,3	17,4
Total precipitation (mm)	39,2	48,8	62,0
Max. temperature (°C)	32,3 (02.08.)	33,2 (07.08.)	
Min. temperature (°C)	5,6 (30.08.)	4,8 (31.08.)	
Highest precipitation in one day (mm)	12,2 (25.08.)	15,2 (15.08.)	
Total precipitation Jan - August (mm)	312,2	383,0	263,0
Number of dry days	20	20	

The precipitations in August 2009 were very poor. They reached just 63% in comparison to the long term average. Ironically, the second highest rainfalls on 17th August 2009 have harmed the hop growers, as they were accompanied by strong wind and further 40 ha of hop gardens have fallen down (the windstorm threw down 104 ha of hop constructions in July). 29,3 ha of hop gardens crashed down in Saaz Region, out of this number 22,8 ha of Saaz Semi-early red-bine hops variety and 6,5 ha of Sládek variety. The losses in Auscha Region were 10, 7 ha of collapsed constructions of hop gardens, all of them being Saaz Semi-early red-bine hops. Besides the damages caused by the crashing of hop gardens, the windstorm brought further losses – fallen vines, broken lateral shoots and decrease of the quality of hops due to wind damage. The temperatures in August were above the long-term average as well as above the temperatures of previous year. The heats, especially when they arose around the noon, deteriorated the conditions for hop-picking.

Growth report

Climatic conditions in August were not optimal for ripening of hops. The hops were damaged by adverse climate conditions (windstorms and high temperatures). The heats and very strong habitus of hops facilitated the dissemination of downy mildew of hops (Pseudoperonospora humuli Miy et Takah.) and red spider mite (Tetranychus urticae Koch). View to the fact, that in some cases the protection of hops was very difficult, the deterioration of hops from the aspect of standard quality indicators has occurred. The harvest started in majority of cases between 18th August and 21st August 2009. The hop-picking on the crashed hop gardens started earlier – on 15th August 2009. The harvest is expected to take more time than it is usual – it will be probably 1 – 2 days longer. This situation was caused by rich habitus of vines. In order to enable quality hop-picking it is necessary to slow down the operational speed of hop-picking machines. As far as the production is concerned, the average results can be expected. As per the first laboratory analysis we can state that the content of alpha bitter substances in Saaz Semi-early red-bine hops will be very good.

Hop phytosanitary information

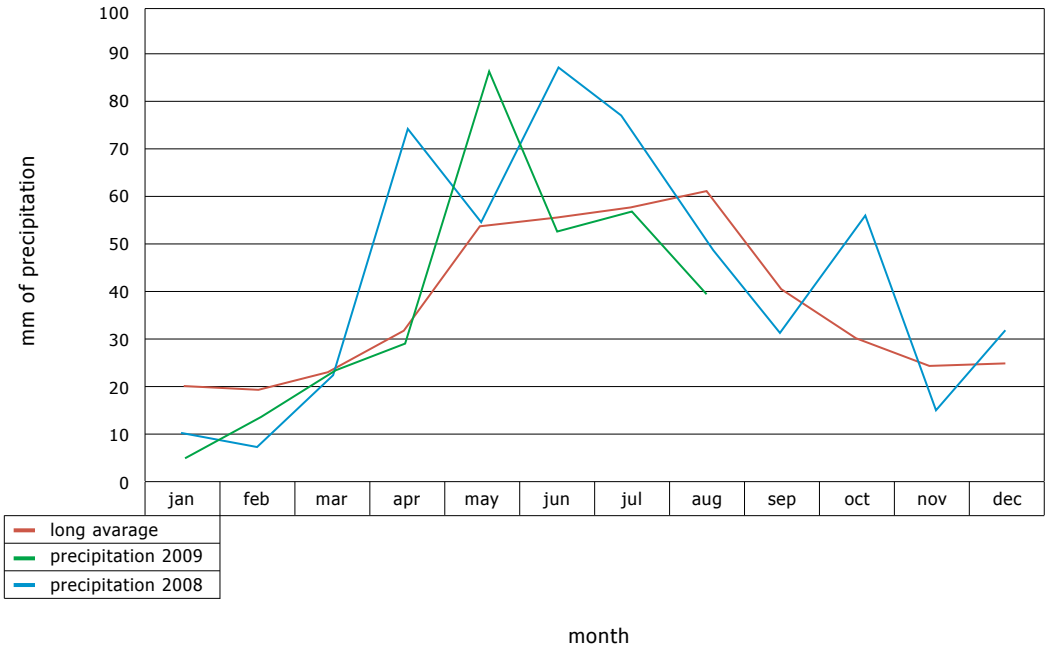
The most problematic work in August was the protection of hops. Protection against downy mildew of hops (Pseudoperonospora humuli Miy et Takah.) and red spider mite (Tetranychus urticae Koch) proved to be very difficult in passed month, and despite all measures some hops will be damaged.

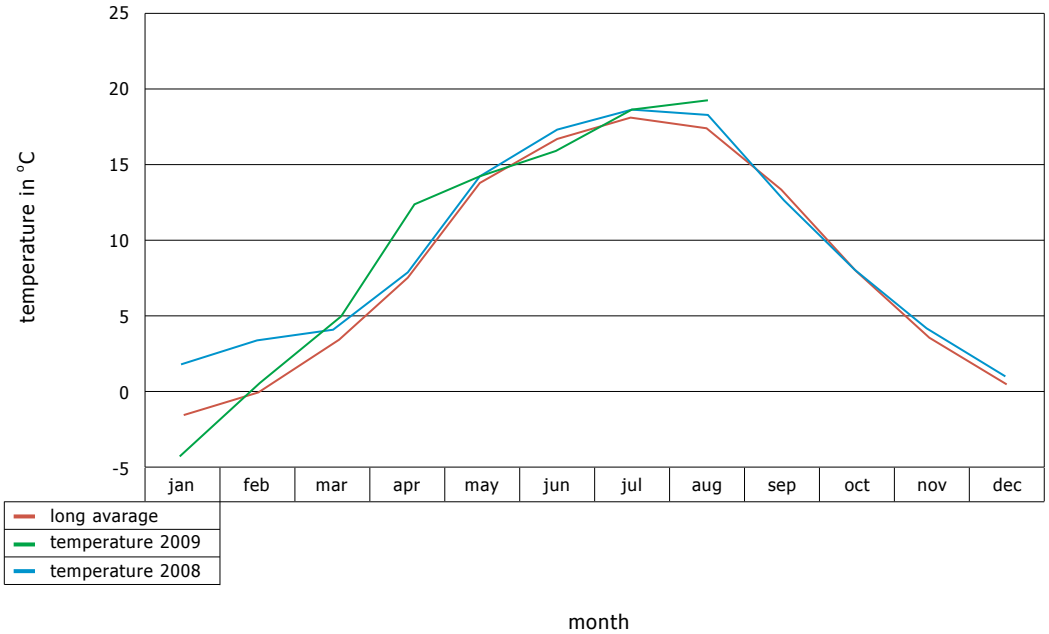
Other information

The ÚKZÚZ – Central Institute for Supervising and Testing in Agriculture specified the hop gardens acreage to be harvested in 2009.

THE ACREAGE OF HOP GARDENS IN THE CZECH REPUBLIC IN 2009 (ÚKZÚZ 31st August 2009)

Variety	Saaz Region (ha)	Auscha Region (ha)	Trschitz Region (ha)	Czech Republic (ha)
Saaz	3 456	596	575	4 627
Agnus	58	0	0	58
Bor	6	7	0	13
Premiant	165	51	77	293
Sládek	192	10	75	277
Fuggle	0	0	5	5
Magnum	2	6	2	10
Harmonine	1	0	0	1
Rubín	1	0	0	1
Others	18	1	3	22
Total	3 899	671	737	5 307





Fallen hop garden on 17th August 2009

Healthy hop cones

St. Vavrinec, patron of hop growers, is blessing hop crop 2009

Saaz, September 1st, 2009
Jaroslav Hájek, Irena Nováková

Chmelařstvi Cooperative Žatec