

Comparison of temperature trends in conventional and thermosolar hives during the year

Throughout 2015, temperature measurements were carried out in Thermosolar Hive and in ordinary thin walled and insulated hives. This was one of the tests we conducted to obtain important results. In this case, **the hives were empty - not colonized by bees**, as the different colony strength would have affected the test significantly. The test shows how the temperature evolves in the internal environment of the hives and clearly confirms that the thermosolar hive contributes significantly to the thermal comfort of the colony, thus accelerating the spring development of the colony and making it easier for the colony to maintain a stable brood temperature, i.e. about 35 °C (95 °F). In this case, only precision insulation of the Thermosolar Hive and thermosolar windows, which increase the temperature in the hive when exposed to the sun, were used. We also use this effect to continuously limit the growth of the Varroa Destructor mite population during the summer months, when on some days temperatures spontaneously reach 38 °C (100.4 °F) or 39 °C (102.2 °F), which greatly reduces the mite's reproductive capabilities and damages its reproductive organs. The test did not use the thermosolar ceiling, which is used in the thermotherapy itself. The testing was carried out in a temperate climate zone in Czechia, near Prague.

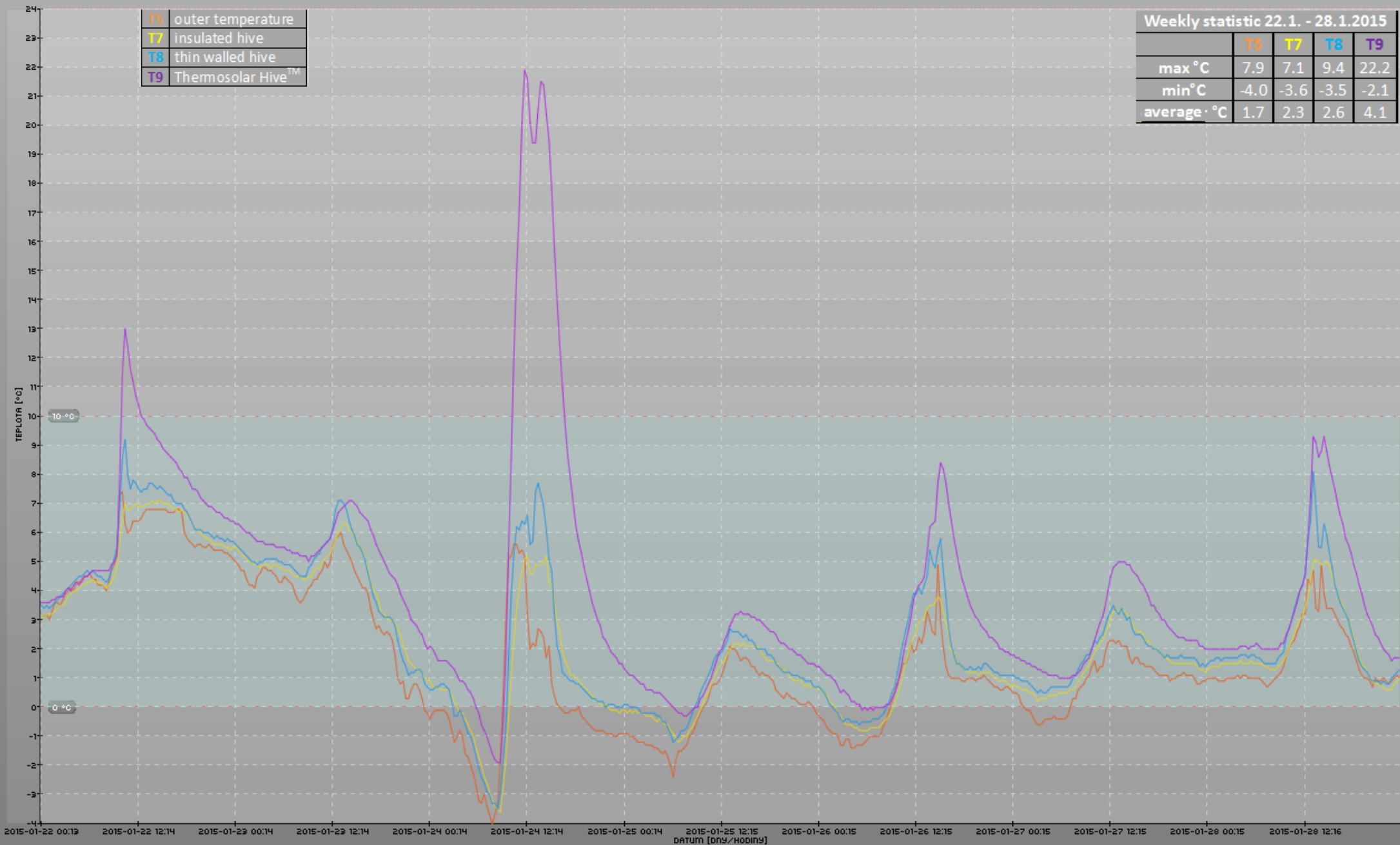


Telemetrie (2015-01-22 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 22.1. - 28.1.2015				
	T5	T7	T8	T9
max °C	7.9	7.1	9.4	22.2
min °C	-4.0	-3.6	-3.5	-2.1
average °C	1.7	2.3	2.6	4.1

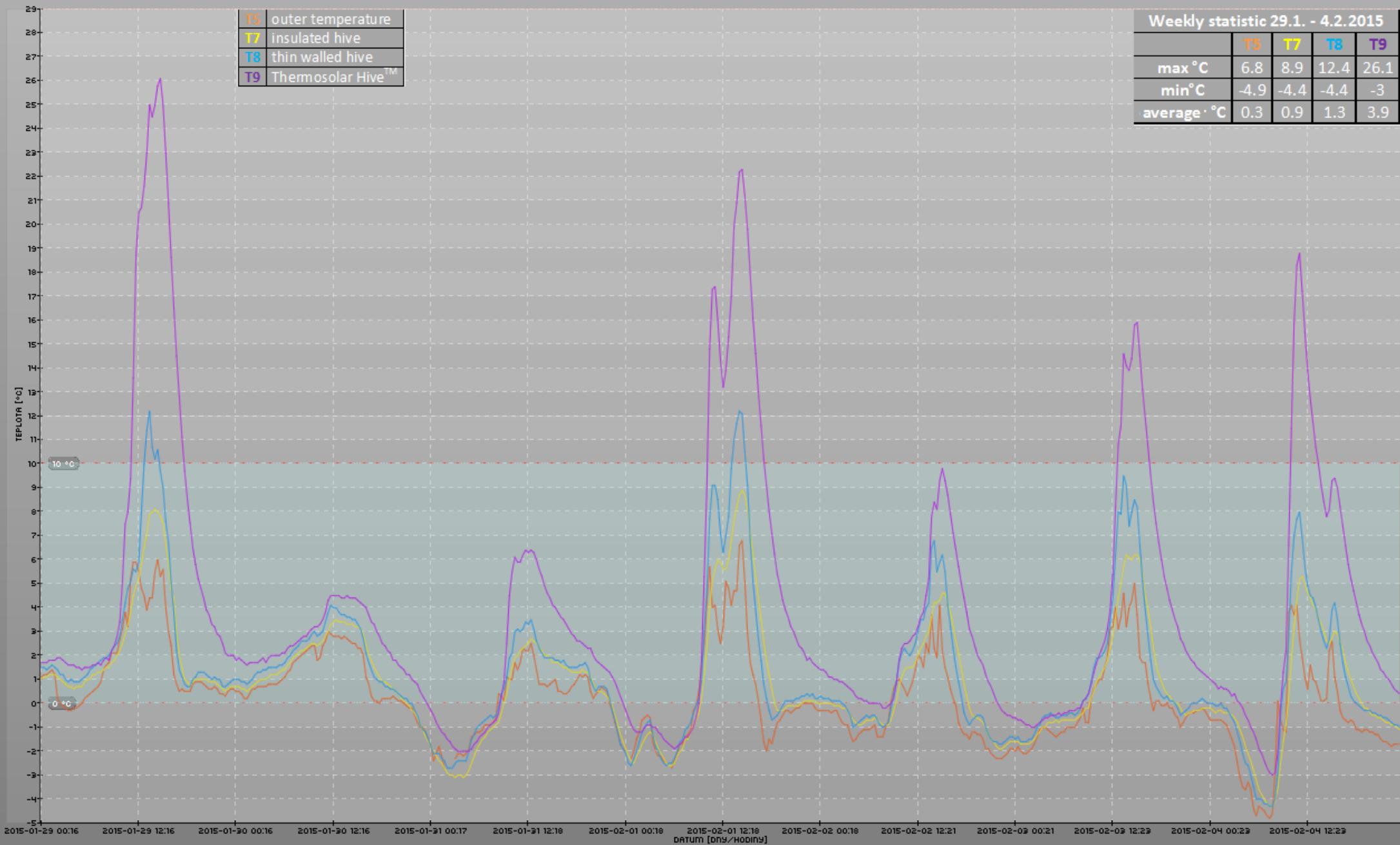


Telemetrie (2015-01-29 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 29.1. - 4.2.2015				
	T5	T7	T8	T9
max °C	6.8	8.9	12.4	26.1
min °C	-4.9	-4.4	-4.4	-3
average °C	0.3	0.9	1.3	3.9

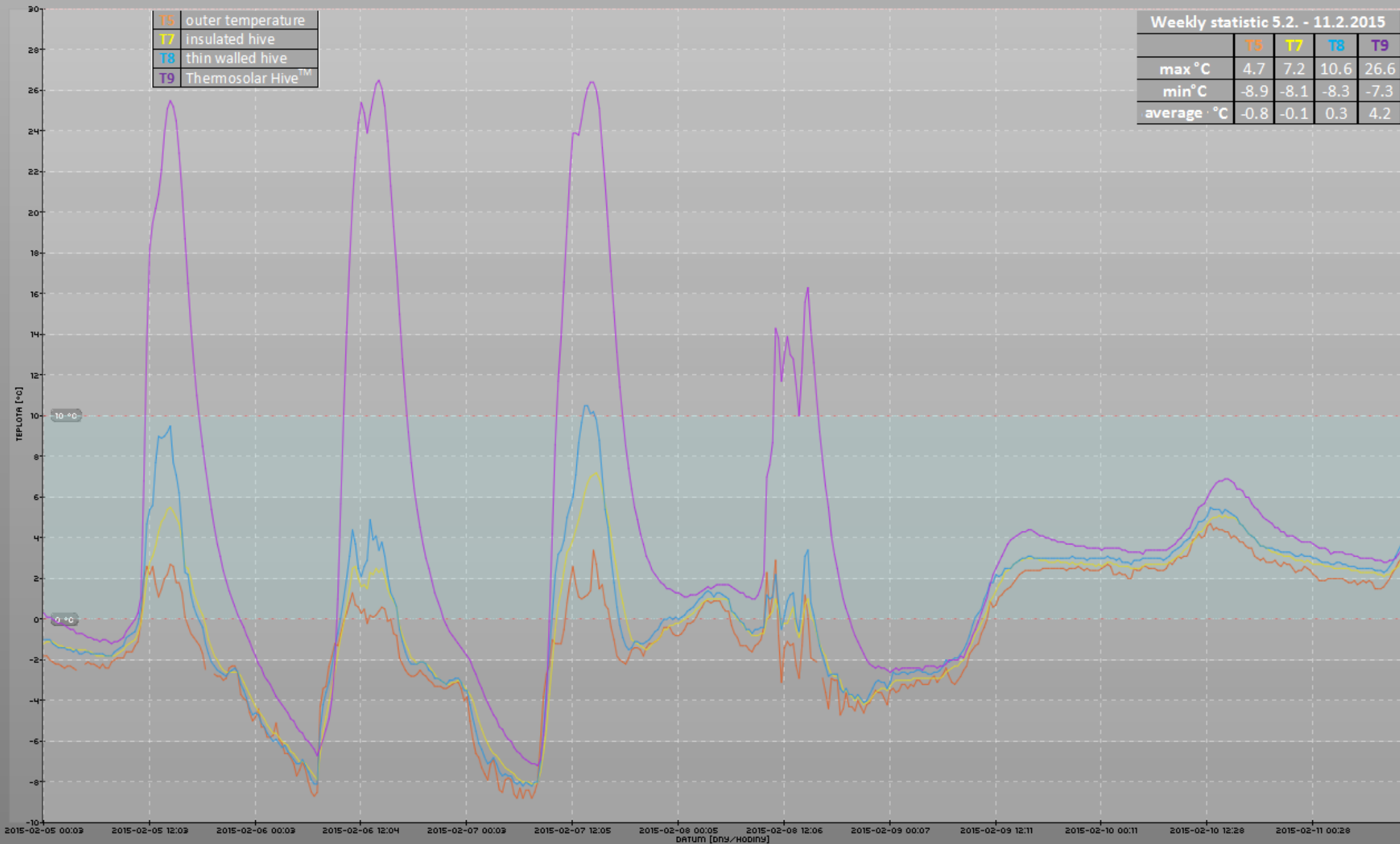


Telemetrie (2015-02-05 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 5.2. - 11.2.2015				
	T5	T7	T8	T9
max °C	4.7	7.2	10.6	26.6
min °C	-8.9	-8.1	-8.3	-7.3
average °C	-0.8	-0.1	0.3	4.2

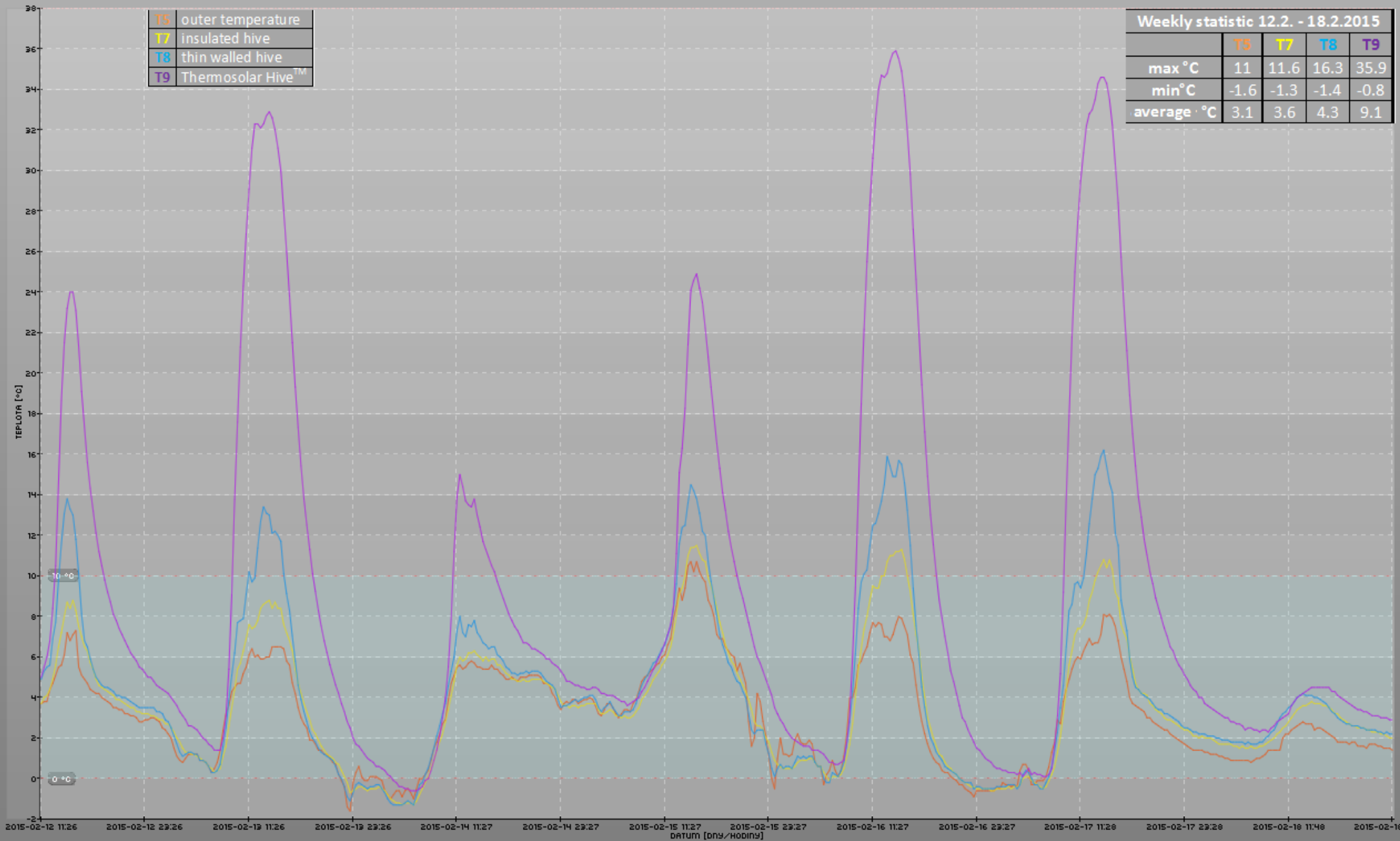


Telemetrie (2015-02-12 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 12.2. - 18.2.2015				
	T5	T7	T8	T9
max °C	11	11.6	16.3	35.9
min °C	-1.6	-1.3	-1.4	-0.8
average °C	3.1	3.6	4.3	9.1

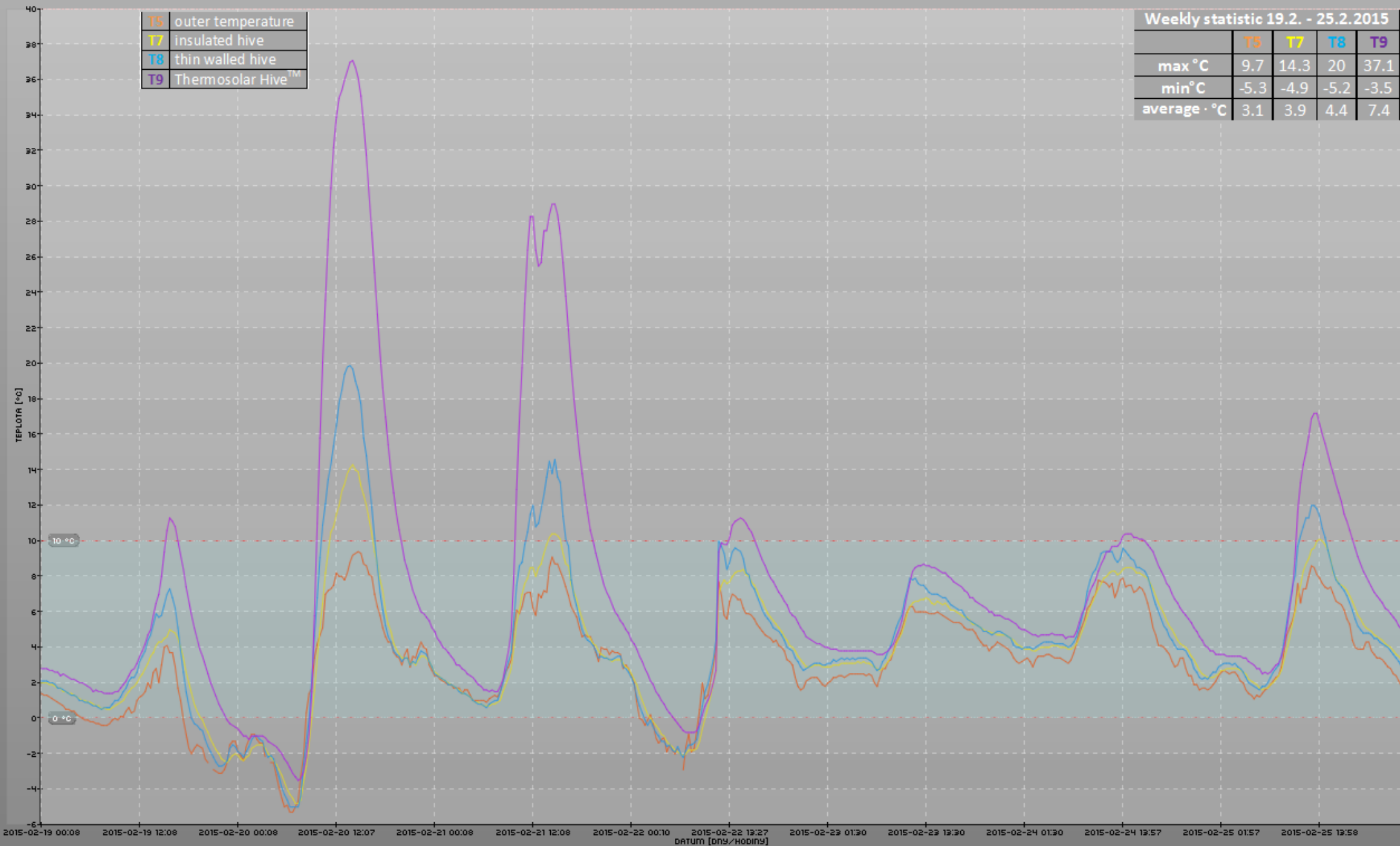


Telemetrie (2015-02-19 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 19.2. - 25.2.2015				
	T5	T7	T8	T9
max °C	9.7	14.3	20	37.1
min °C	-5.3	-4.9	-5.2	-3.5
average °C	3.1	3.9	4.4	7.4

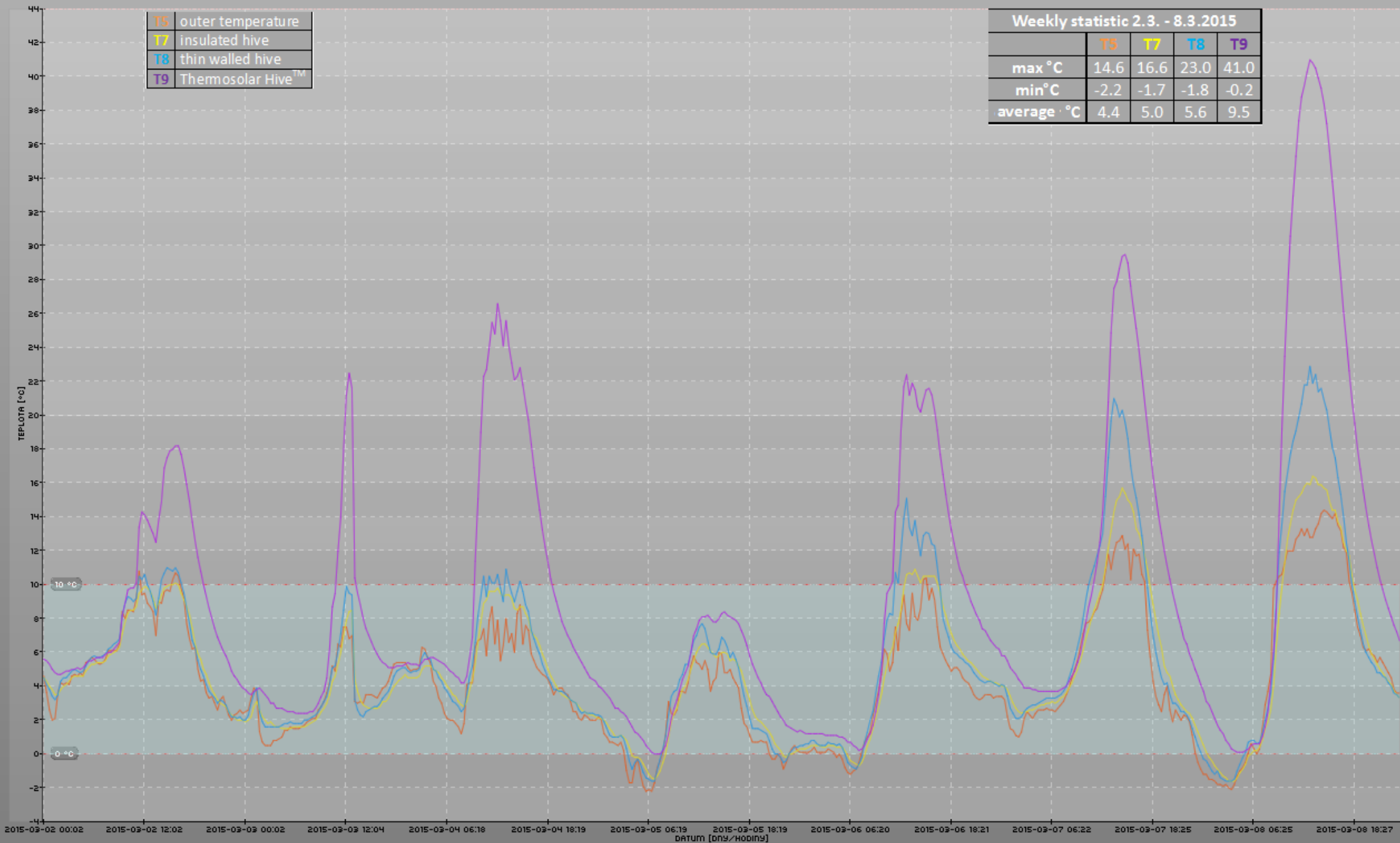


Telemetrie (2015-03-02 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 2.3. - 8.3.2015				
	T5	T7	T8	T9
max °C	14.6	16.6	23.0	41.0
min °C	-2.2	-1.7	-1.8	-0.2
average °C	4.4	5.0	5.6	9.5

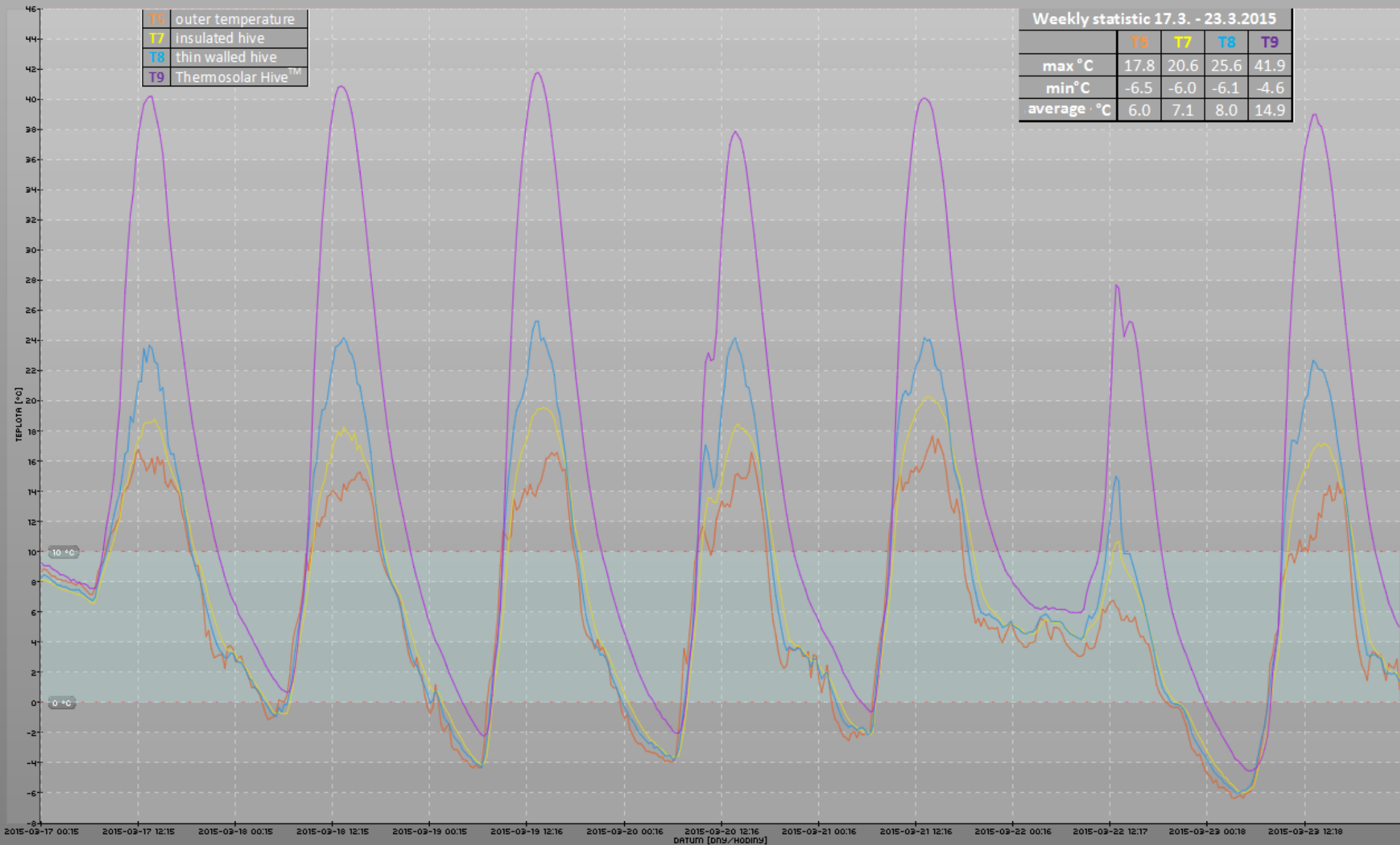


Telemetrie (2015-03-17 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 17.3. - 23.3.2015				
	T5	T7	T8	T9
max °C	17.8	20.6	25.6	41.9
min °C	-6.5	-6.0	-6.1	-4.6
average °C	6.0	7.1	8.0	14.9

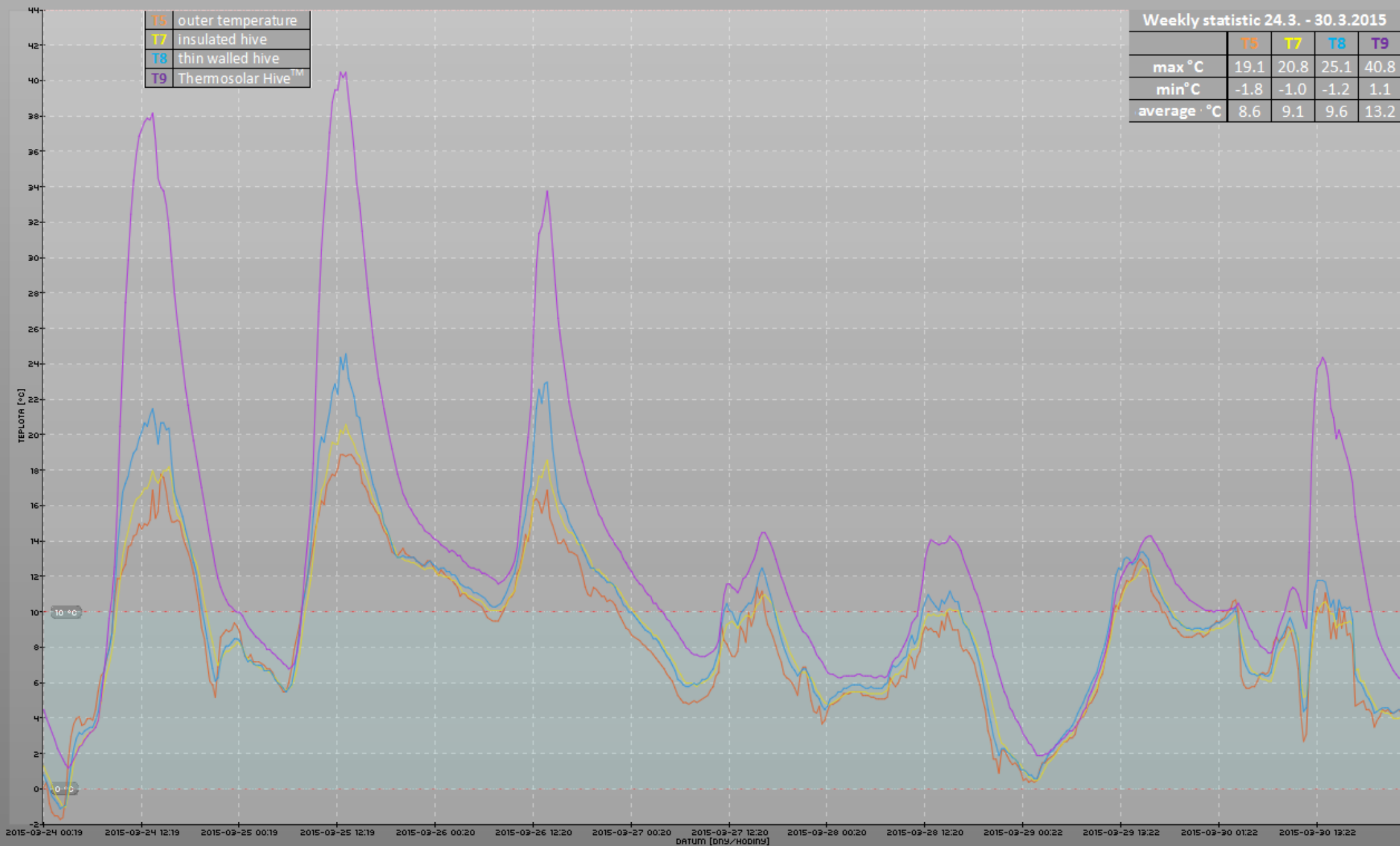


Telemetrie (2015-03-24 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 24.3. - 30.3.2015				
	T5	T7	T8	T9
max °C	19.1	20.8	25.1	40.8
min °C	-1.8	-1.0	-1.2	1.1
average °C	8.6	9.1	9.6	13.2



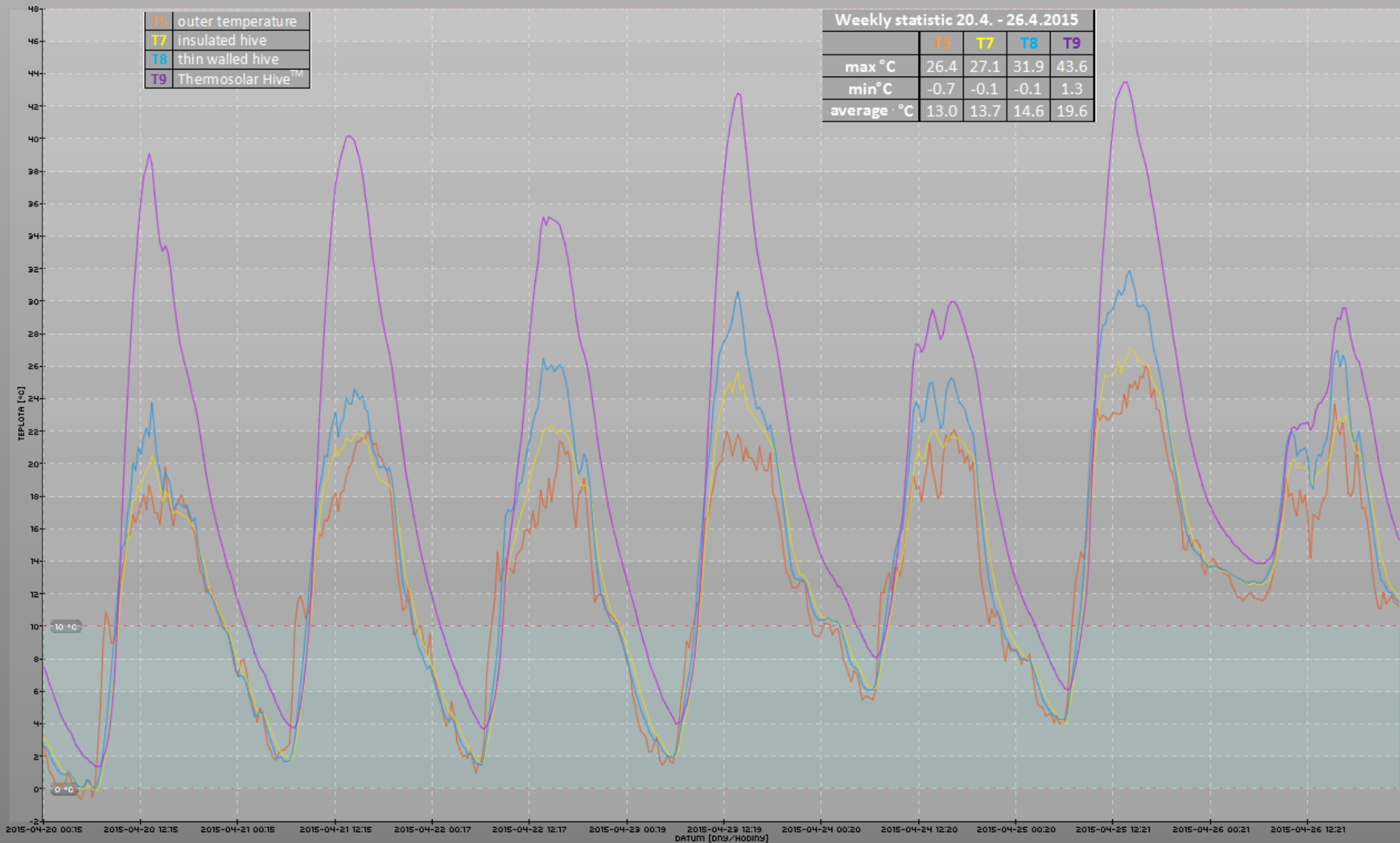
Telemetrie (2015-04-20 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 20.4. - 26.4.2015

	T5	T7	T8	T9
max °C	26.4	27.1	31.9	43.6
min °C	-0.7	-0.1	-0.1	1.3
average °C	13.0	13.7	14.6	19.6

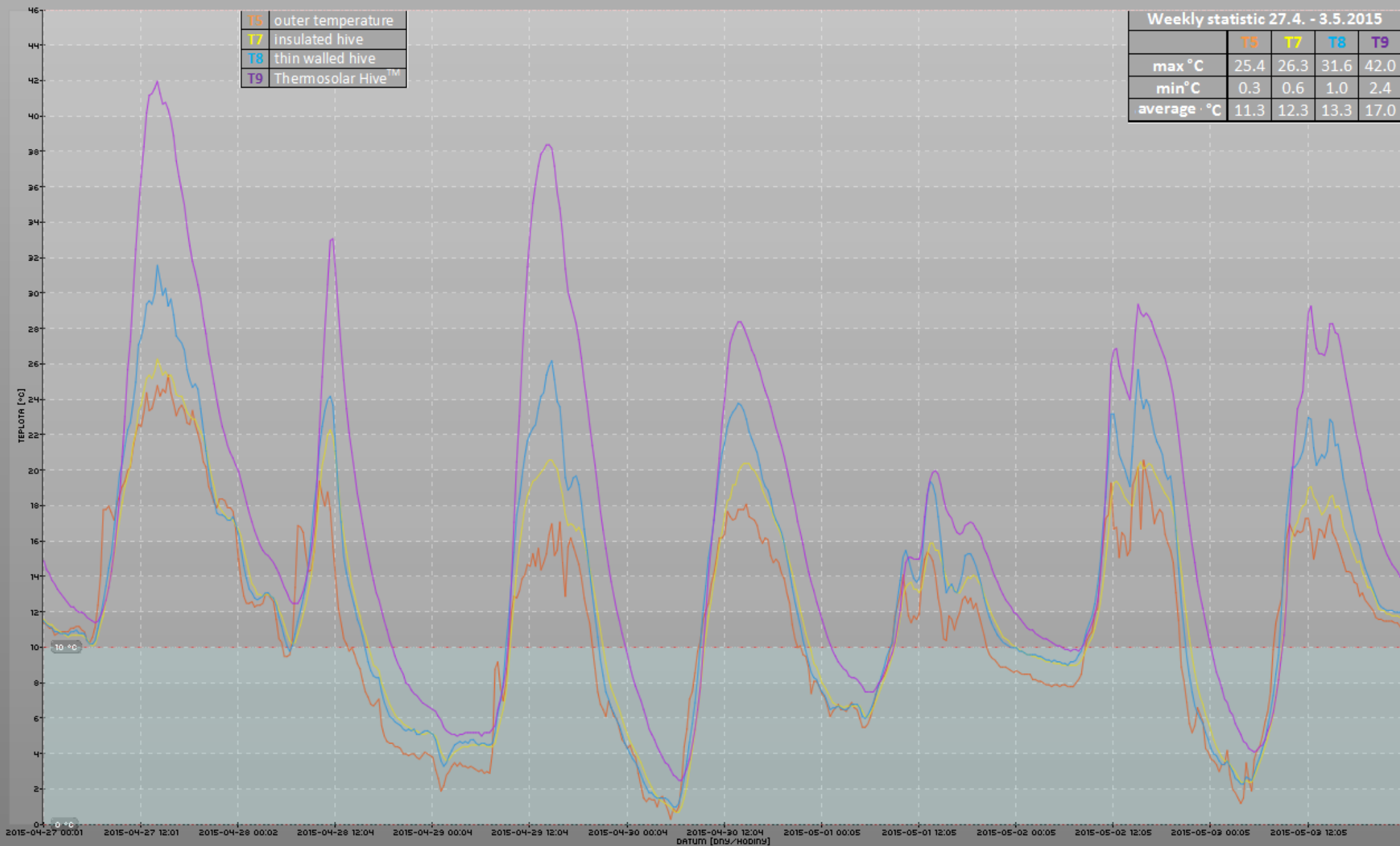


Telemetrie (2015-04-27 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 27.4. - 3.5.2015				
	T5	T7	T8	T9
max °C	25.4	26.3	31.6	42.0
min °C	0.3	0.6	1.0	2.4
average °C	11.3	12.3	13.3	17.0

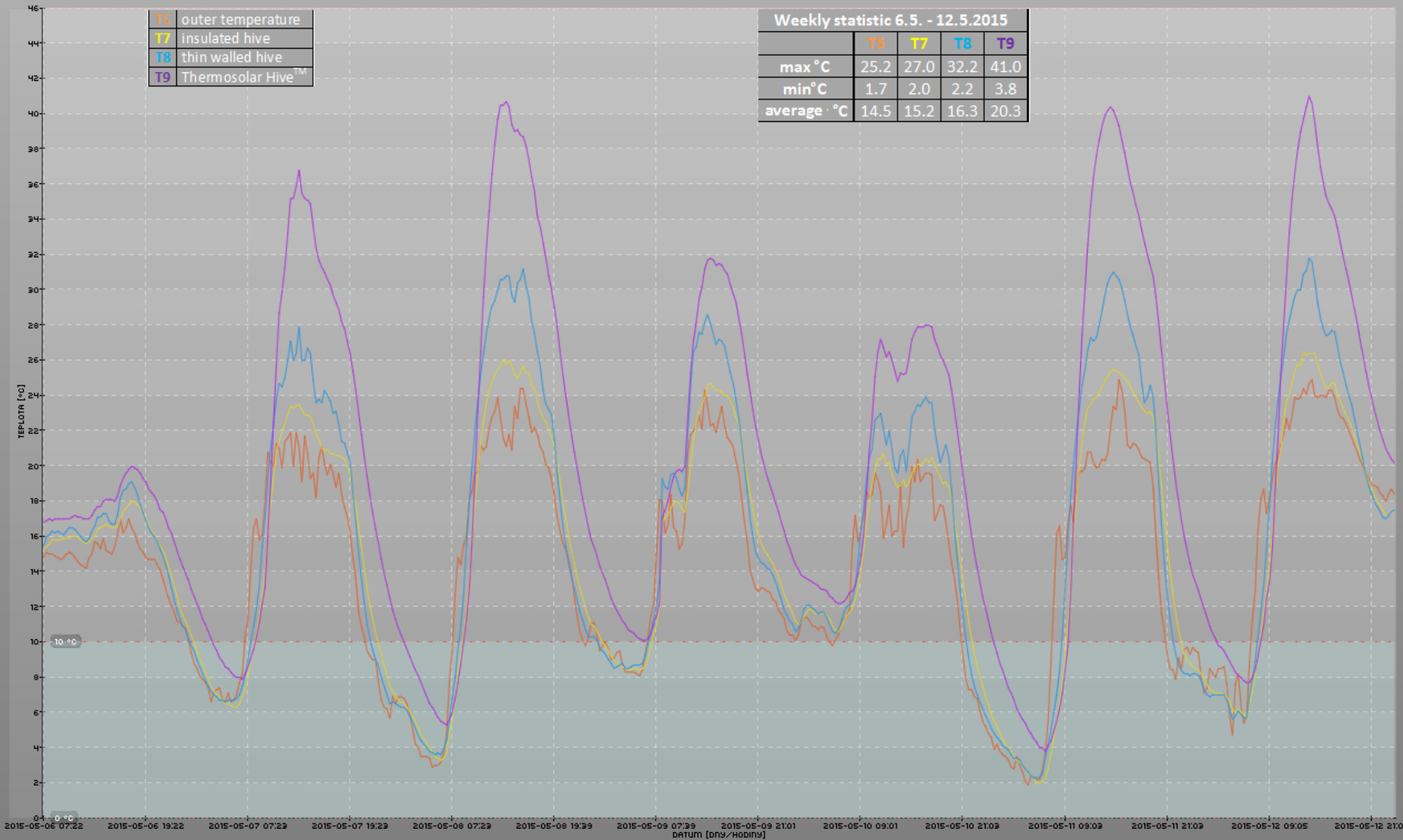


Telemetrie (2015-05-06 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 6.5. - 12.5.2015				
	T5	T7	T8	T9
max °C	25.2	27.0	32.2	41.0
min °C	1.7	2.0	2.2	3.8
average °C	14.5	15.2	16.3	20.3



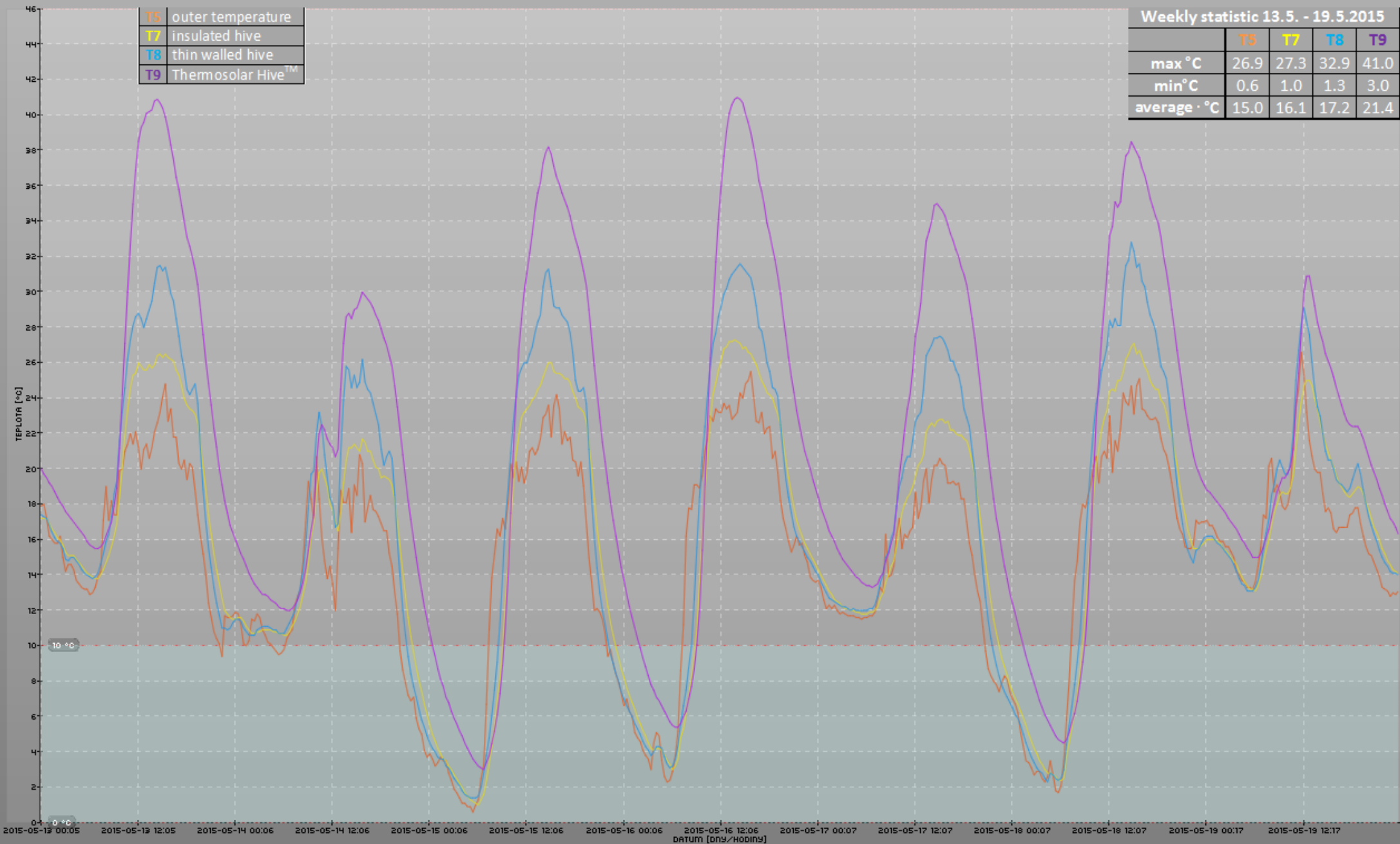
Telemetrie (2015-05-13 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 13.5. - 19.5.2015

	T5	T7	T8	T9
max °C	26.9	27.3	32.9	41.0
min °C	0.6	1.0	1.3	3.0
average °C	15.0	16.1	17.2	21.4

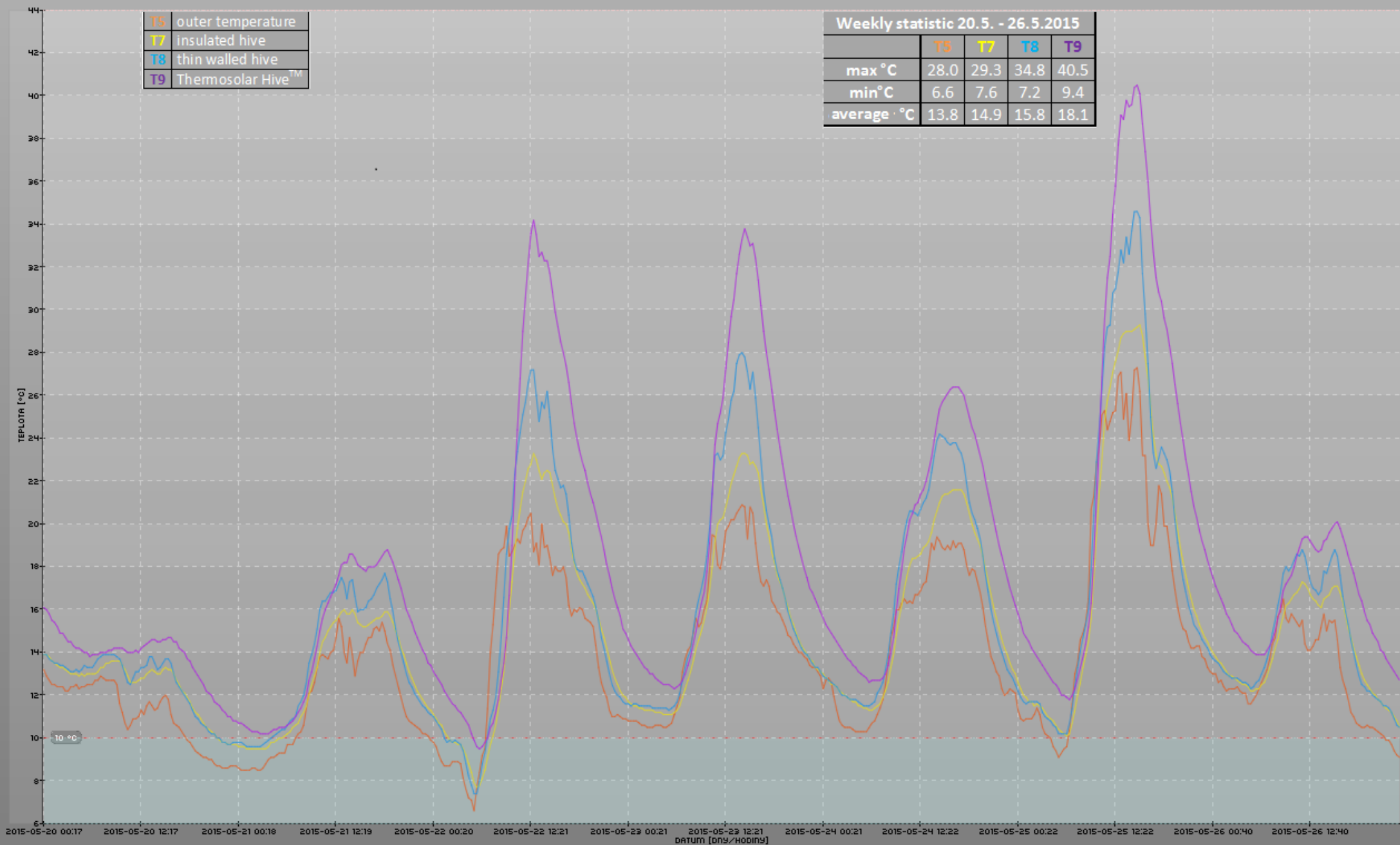


Telemetrie (2015-05-20 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 20.5. - 26.5.2015				
	T5	T7	T8	T9
max °C	28.0	29.3	34.8	40.5
min °C	6.6	7.6	7.2	9.4
average °C	13.8	14.9	15.8	18.1

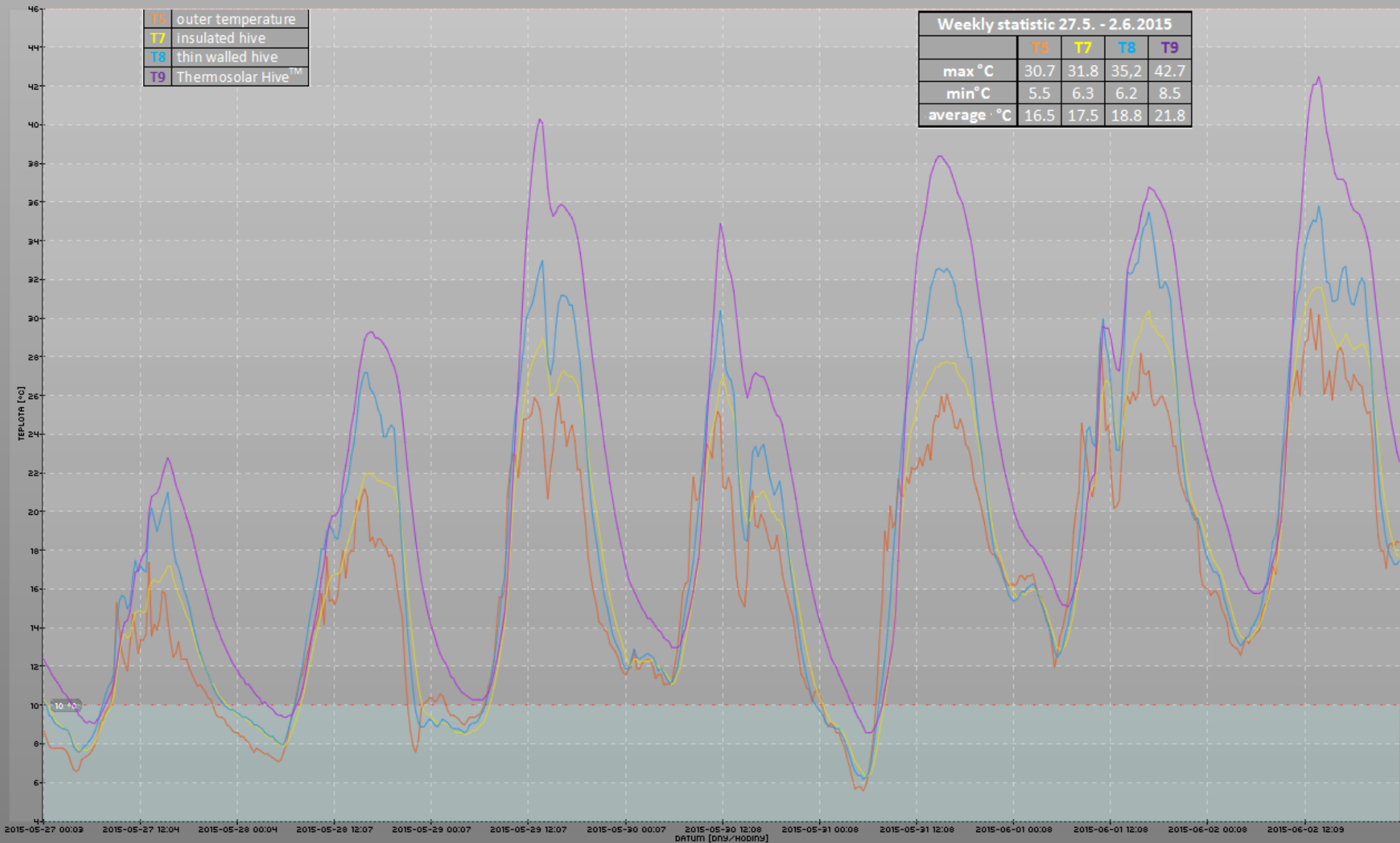


Telemetrie (2015-05-27 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 27.5. - 2.6.2015				
	T5	T7	T8	T9
max °C	30.7	31.8	35,2	42.7
min °C	5.5	6.3	6.2	8.5
average °C	16.5	17.5	18.8	21.8

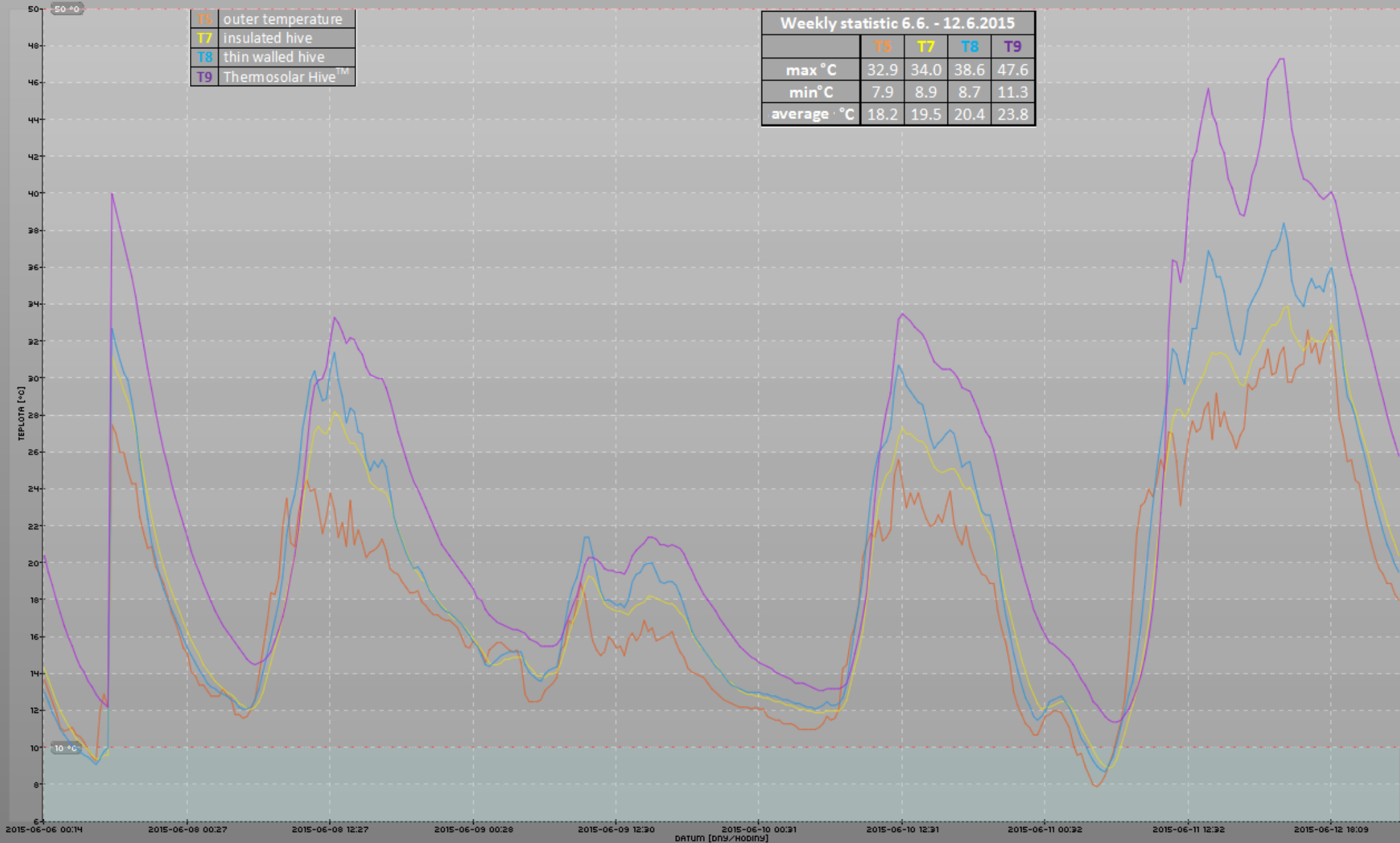


Telemetrie (2015-06-06 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 6.6. - 12.6.2015				
	T5	T7	T8	T9
max °C	32.9	34.0	38.6	47.6
min °C	7.9	8.9	8.7	11.3
average °C	18.2	19.5	20.4	23.8

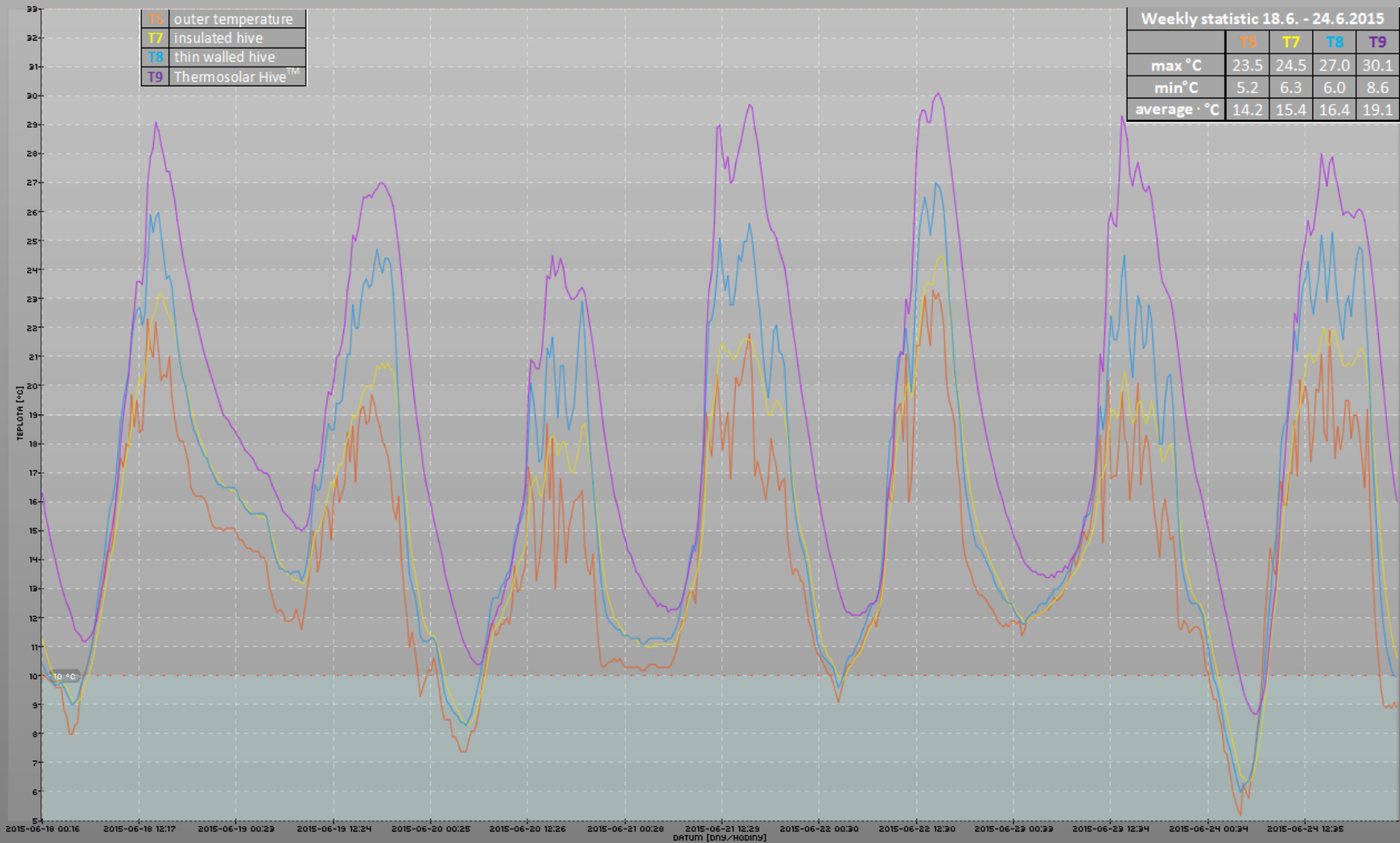


Telemetrie (2015-06-18 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 18.6. - 24.6.2015				
	T5	T7	T8	T9
max °C	23.5	24.5	27.0	30.1
min °C	5.2	6.3	6.0	8.6
average °C	14.2	15.4	16.4	19.1

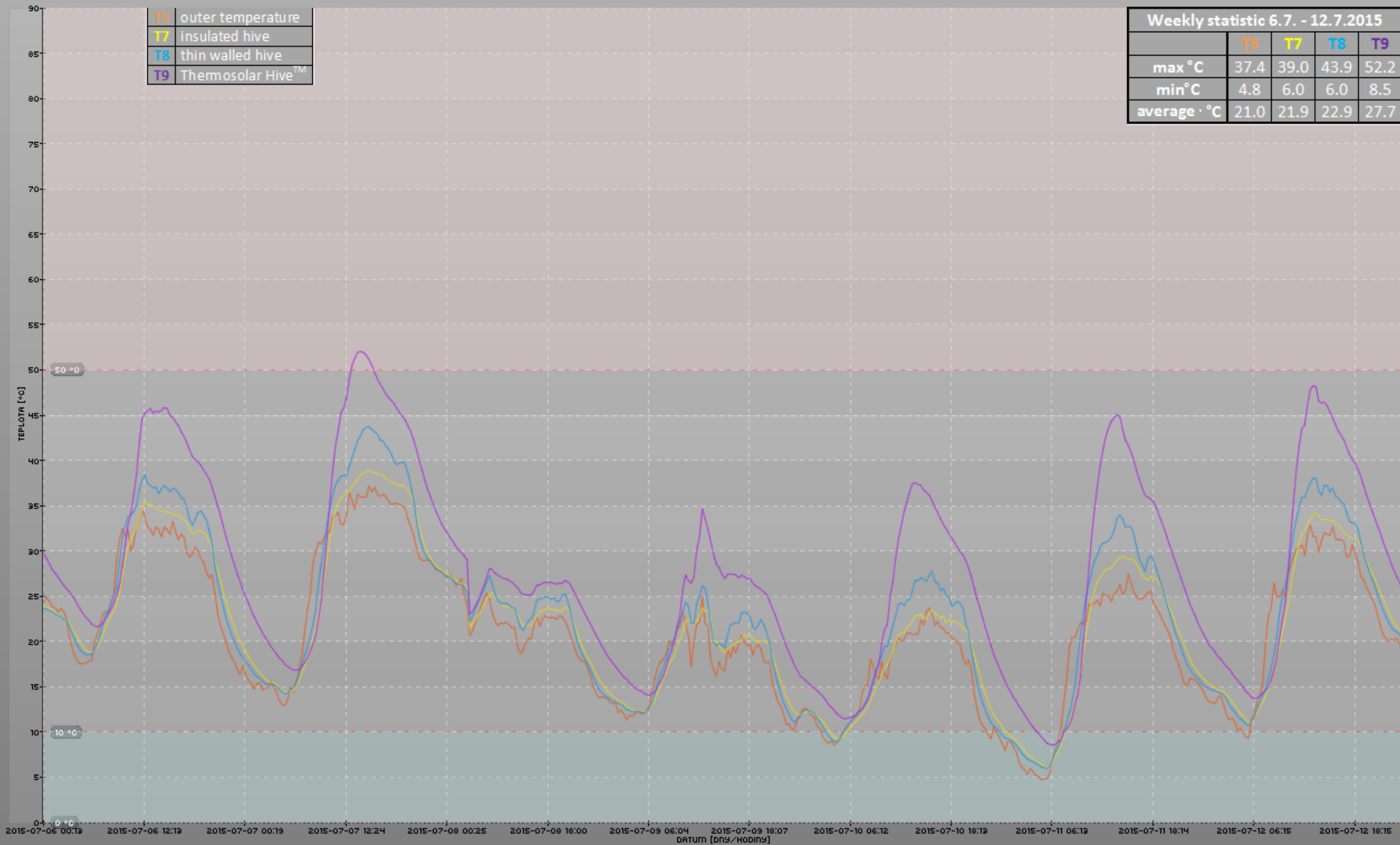


Telemetrie (2015-07-06 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 6.7. - 12.7.2015				
	T5	T7	T8	T9
max °C	37.4	39.0	43.9	52.2
min °C	4.8	6.0	6.0	8.5
average °C	21.0	21.9	22.9	27.7

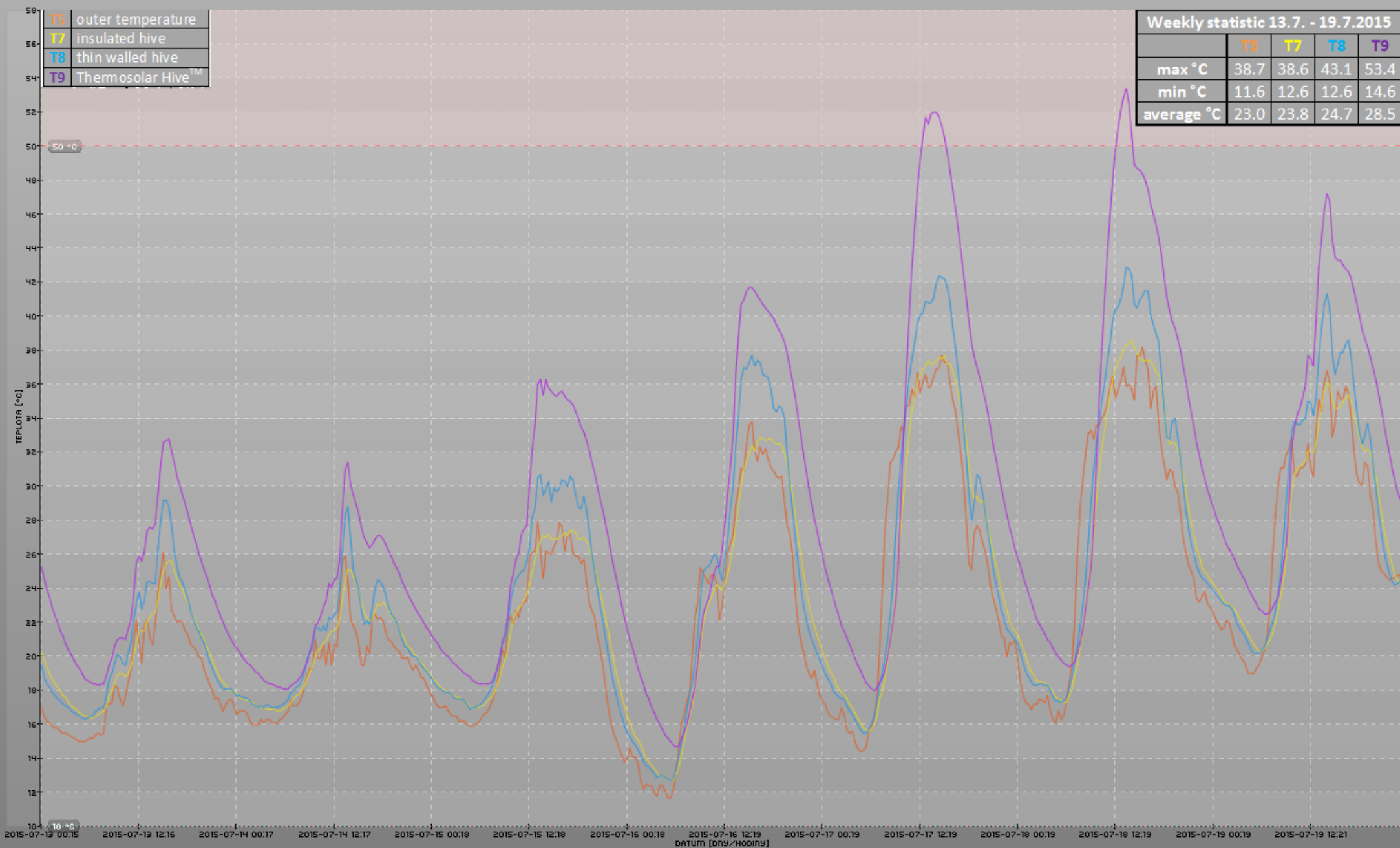


Telemetrie (2015-07-13 + 1 tyden)

T5 T7 T8 T9

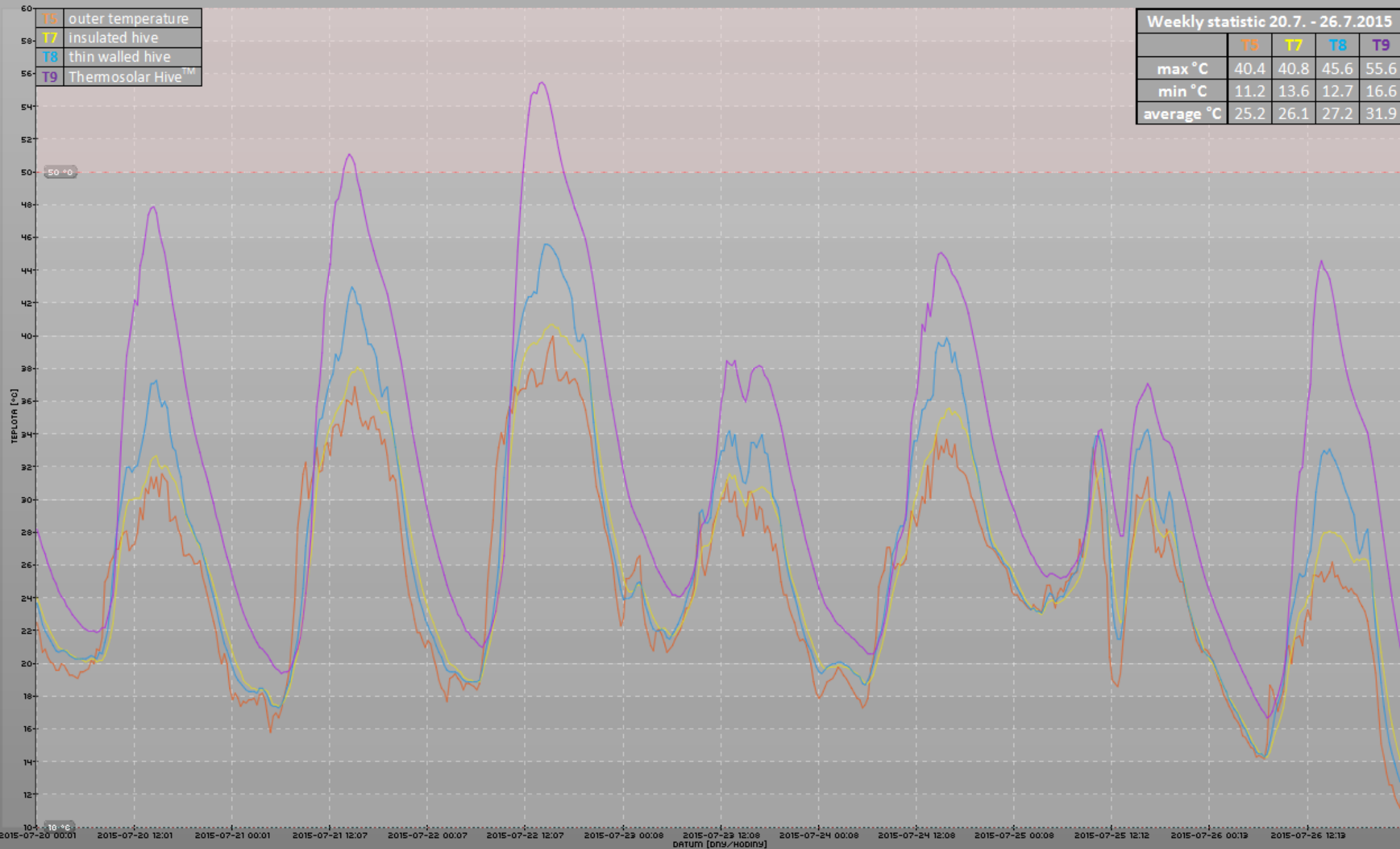
T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 13.7. - 19.7.2015				
	T5	T7	T8	T9
max °C	38.7	38.6	43.1	53.4
min °C	11.6	12.6	12.6	14.6
average °C	23.0	23.8	24.7	28.5



Telemetry (2015-07-20 + 1 tyden)

T5 T7 T8 T9

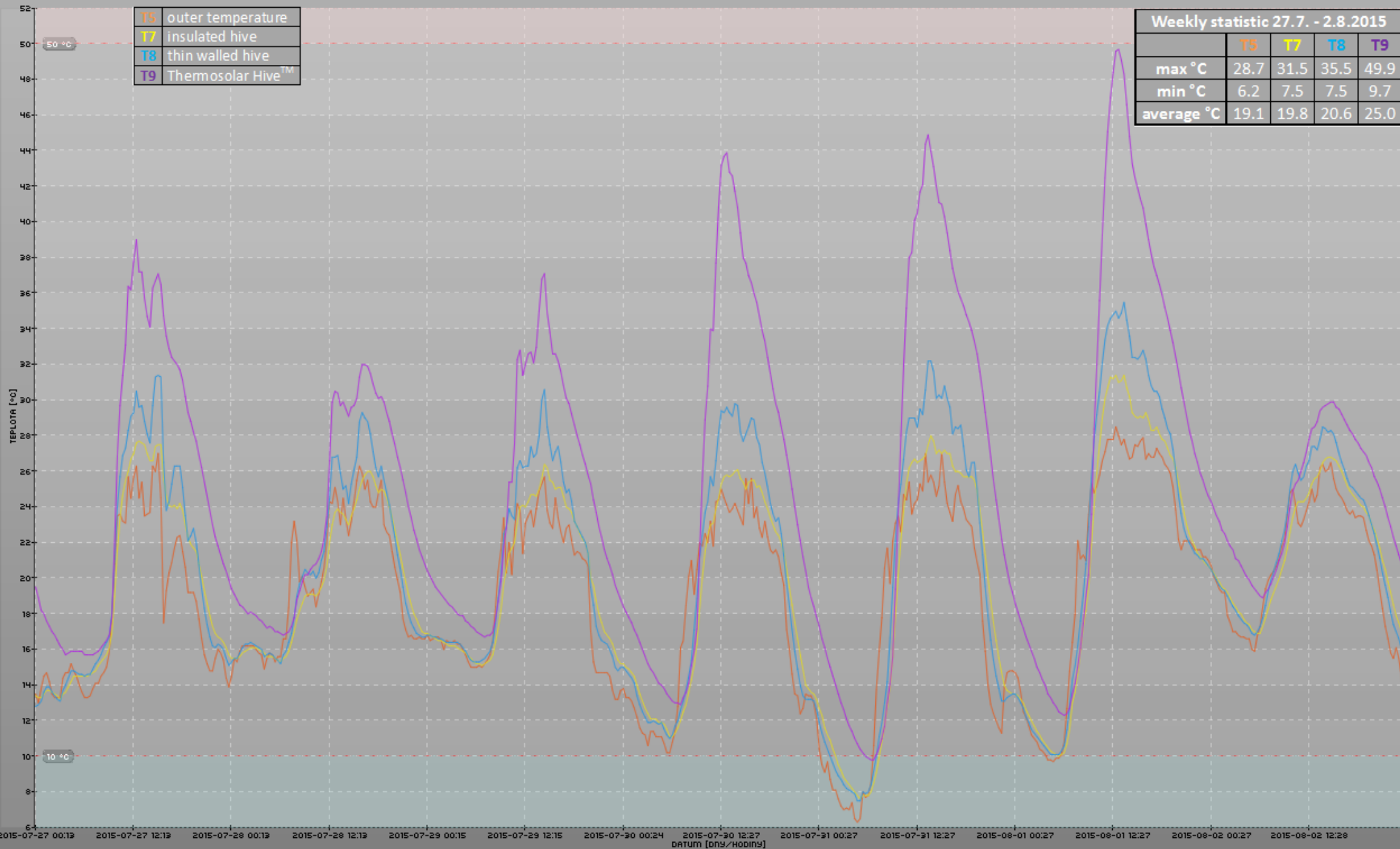


Telemetrie (2015-07-27 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 27.7. - 2.8.2015				
	T5	T7	T8	T9
max °C	28.7	31.5	35.5	49.9
min °C	6.2	7.5	7.5	9.7
average °C	19.1	19.8	20.6	25.0



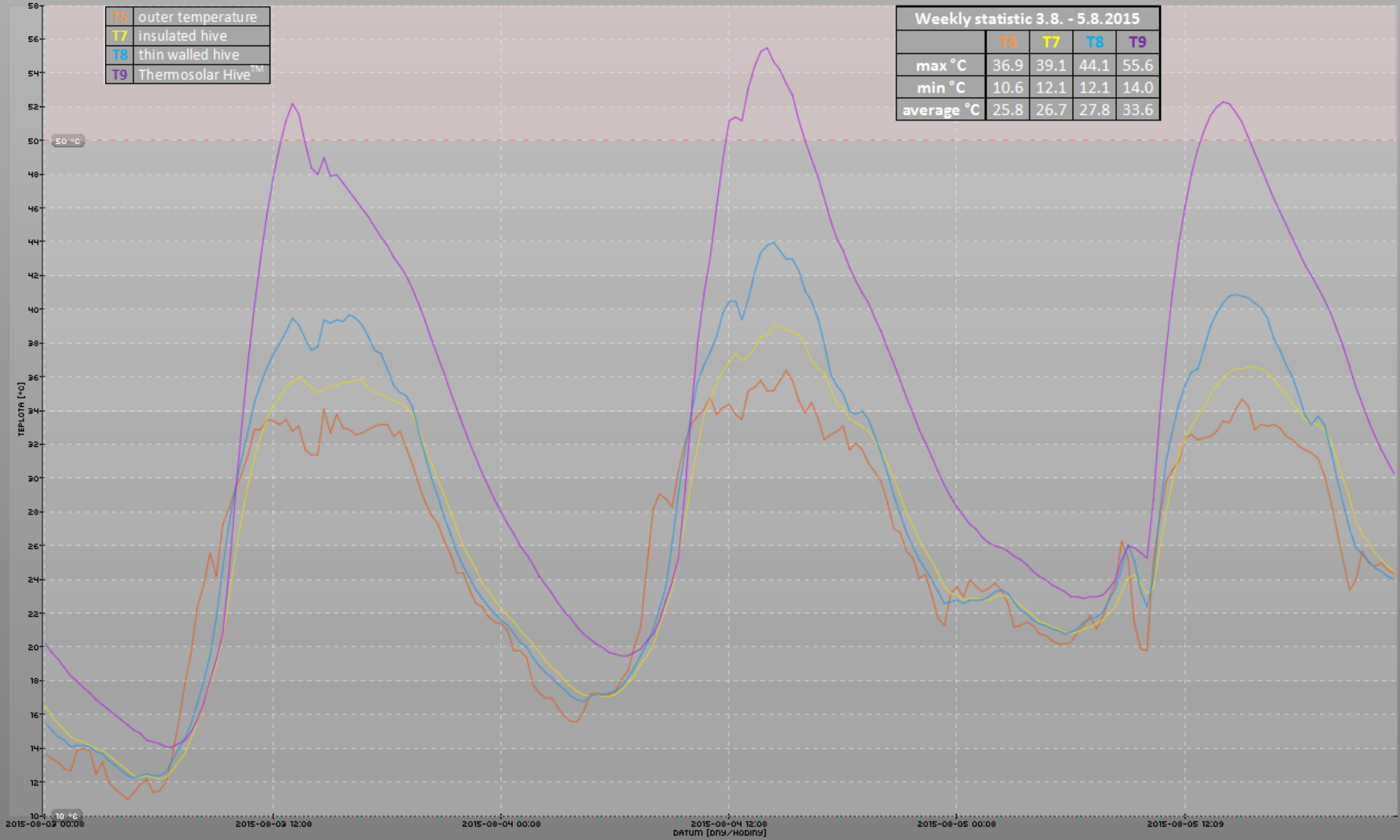
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Telemetrie (2015-08-03 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 3.8. - 5.8.2015				
	T5	T7	T8	T9
max °C	36.9	39.1	44.1	55.6
min °C	10.6	12.1	12.1	14.0
average °C	25.8	26.7	27.8	33.6



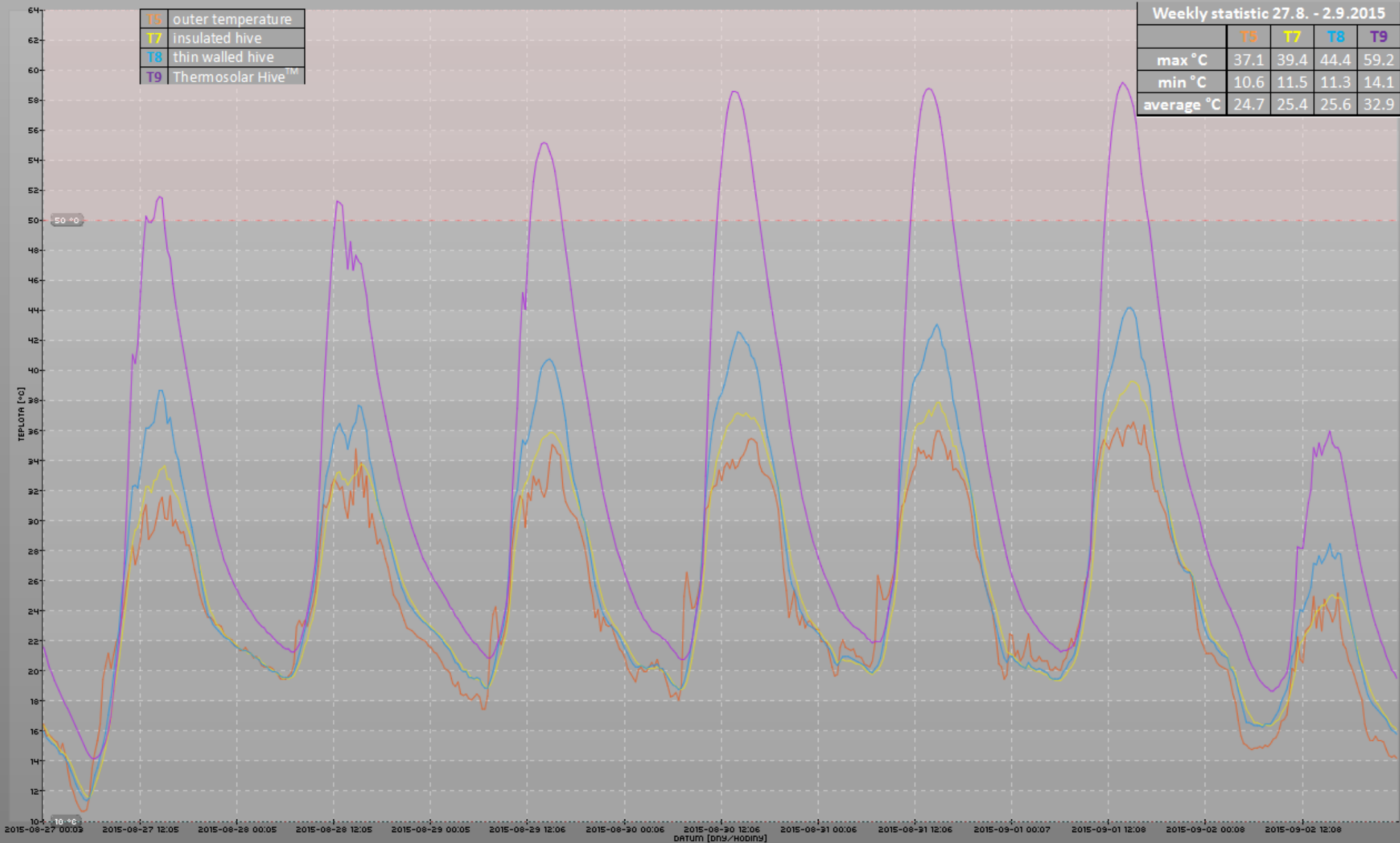
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Telemetrie (2015-08-27 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 27.8. - 2.9.2015				
	T5	T7	T8	T9
max °C	37.1	39.4	44.4	59.2
min °C	10.6	11.5	11.3	14.1
average °C	24.7	25.4	25.6	32.9

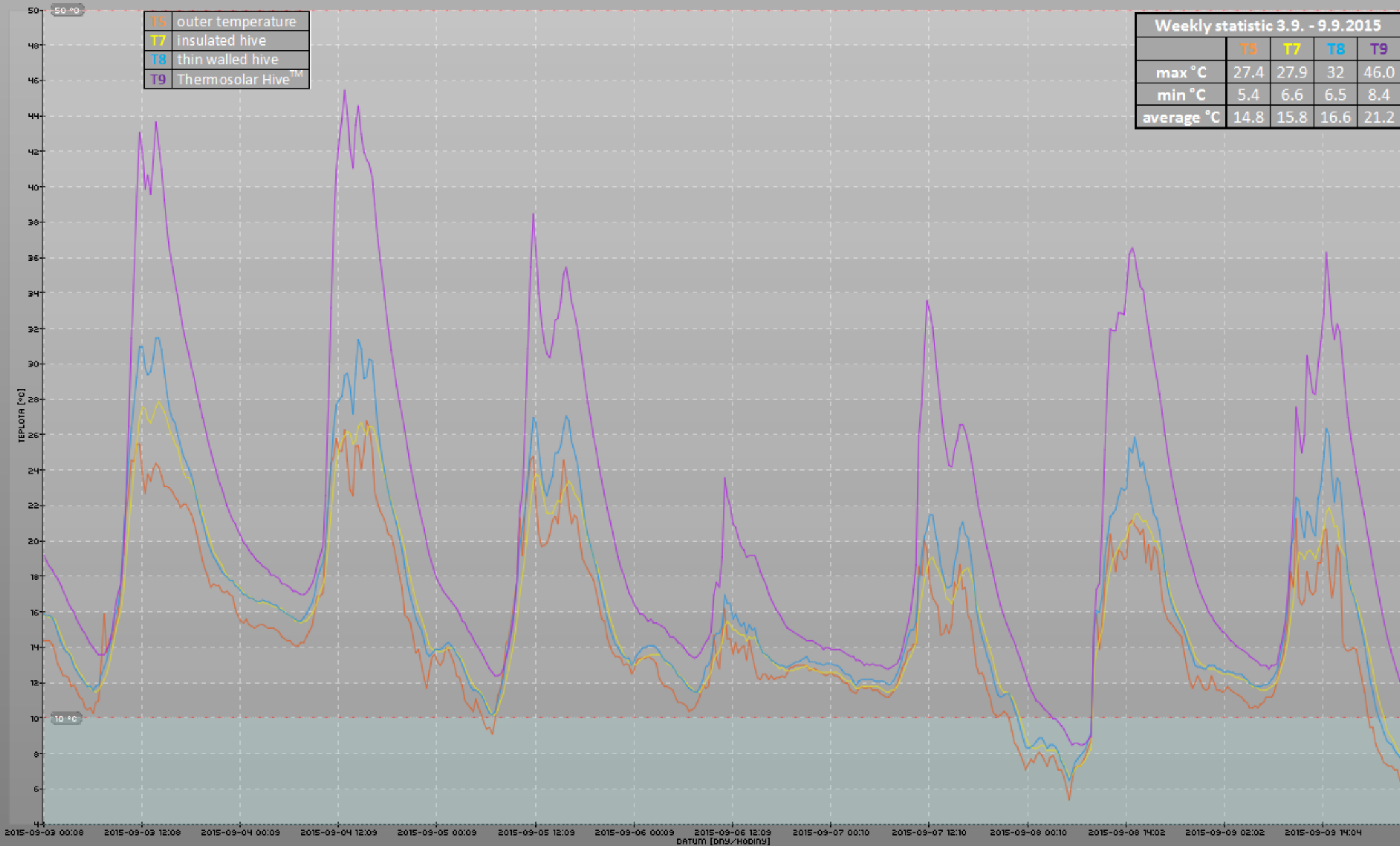


Telemetrie (2015-09-03 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 3.9. - 9.9.2015				
	T5	T7	T8	T9
max °C	27.4	27.9	32	46.0
min °C	5.4	6.6	6.5	8.4
average °C	14.8	15.8	16.6	21.2

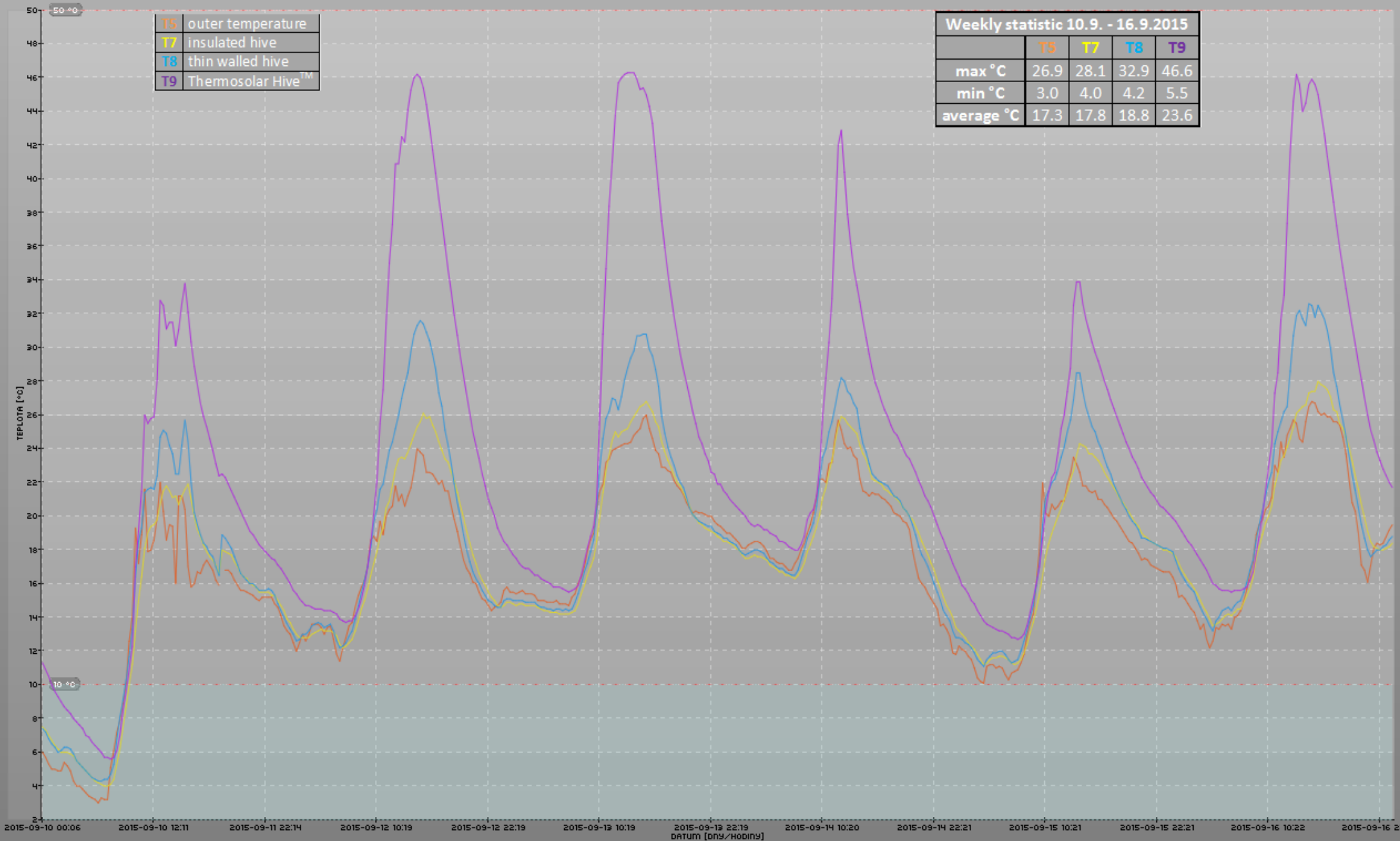


Telemetrie (2015-09-10 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 10.9. - 16.9.2015				
	T5	T7	T8	T9
max °C	26.9	28.1	32.9	46.6
min °C	3.0	4.0	4.2	5.5
average °C	17.3	17.8	18.8	23.6

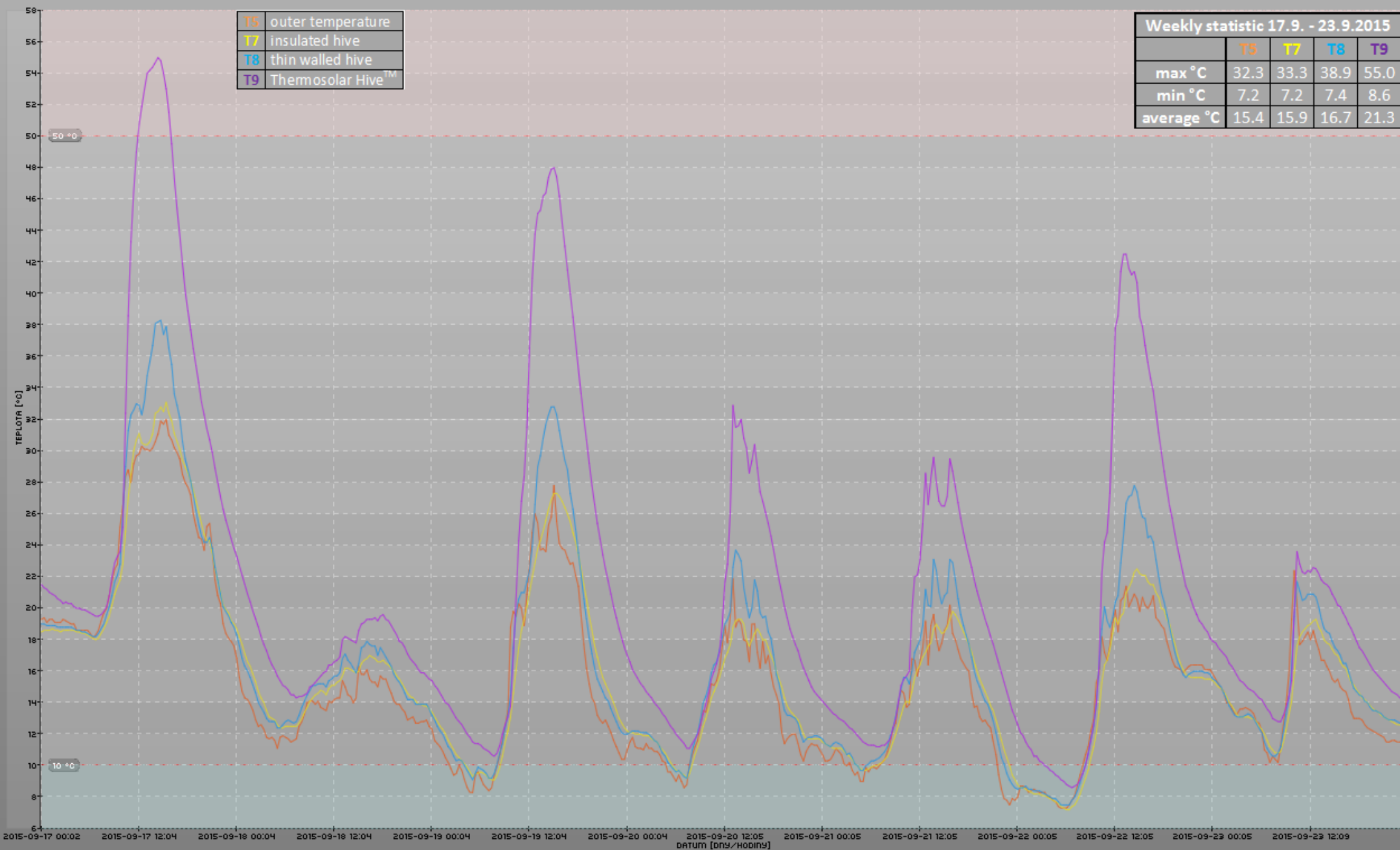


Telemetrie (2015-09-17 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 17.9. - 23.9.2015				
	T5	T7	T8	T9
max °C	32.3	33.3	38.9	55.0
min °C	7.2	7.2	7.4	8.6
average °C	15.4	15.9	16.7	21.3

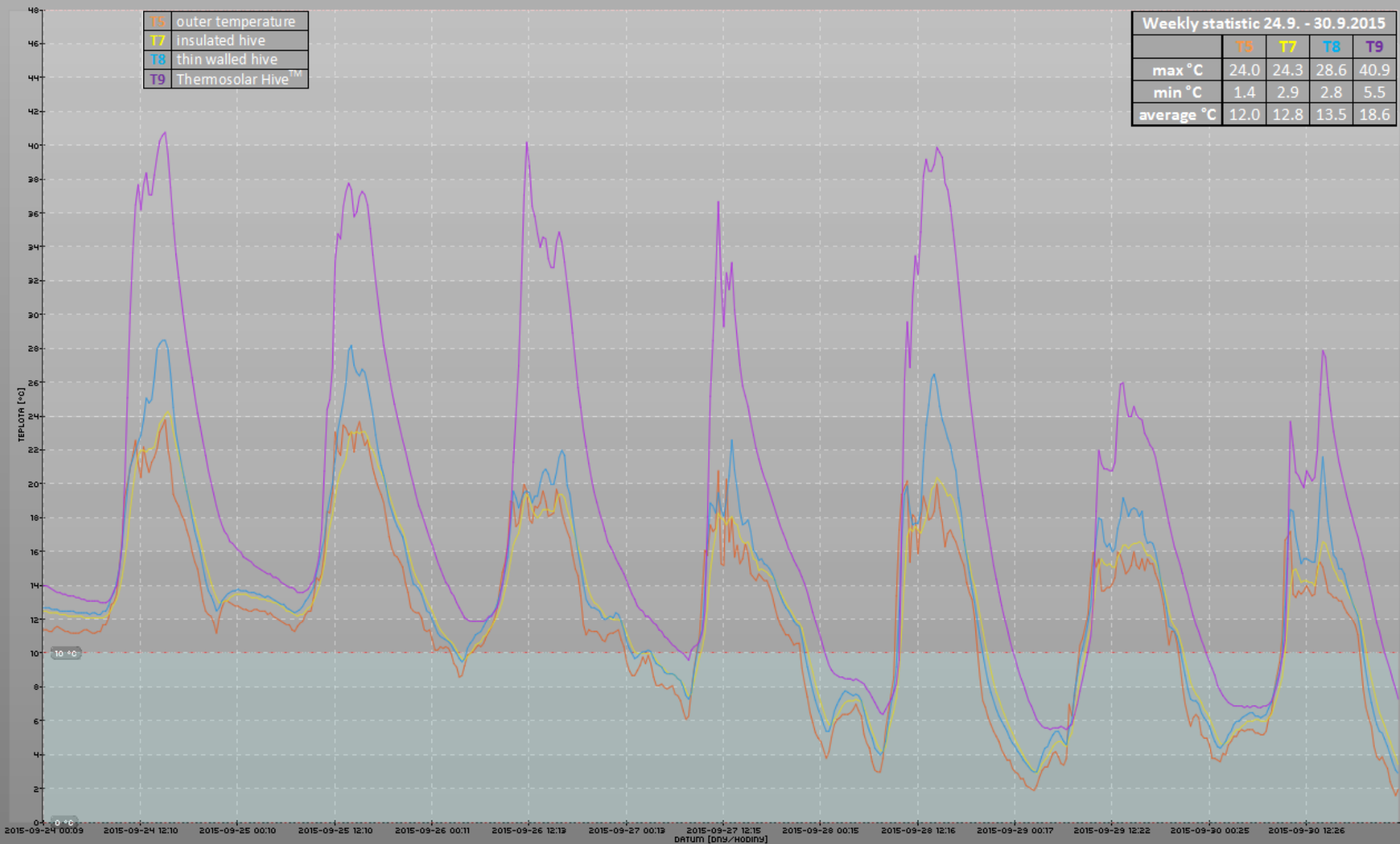


Telemetry (2015-09-24 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 24.9. - 30.9.2015				
	T5	T7	T8	T9
max °C	24.0	24.3	28.6	40.9
min °C	1.4	2.9	2.8	5.5
average °C	12.0	12.8	13.5	18.6

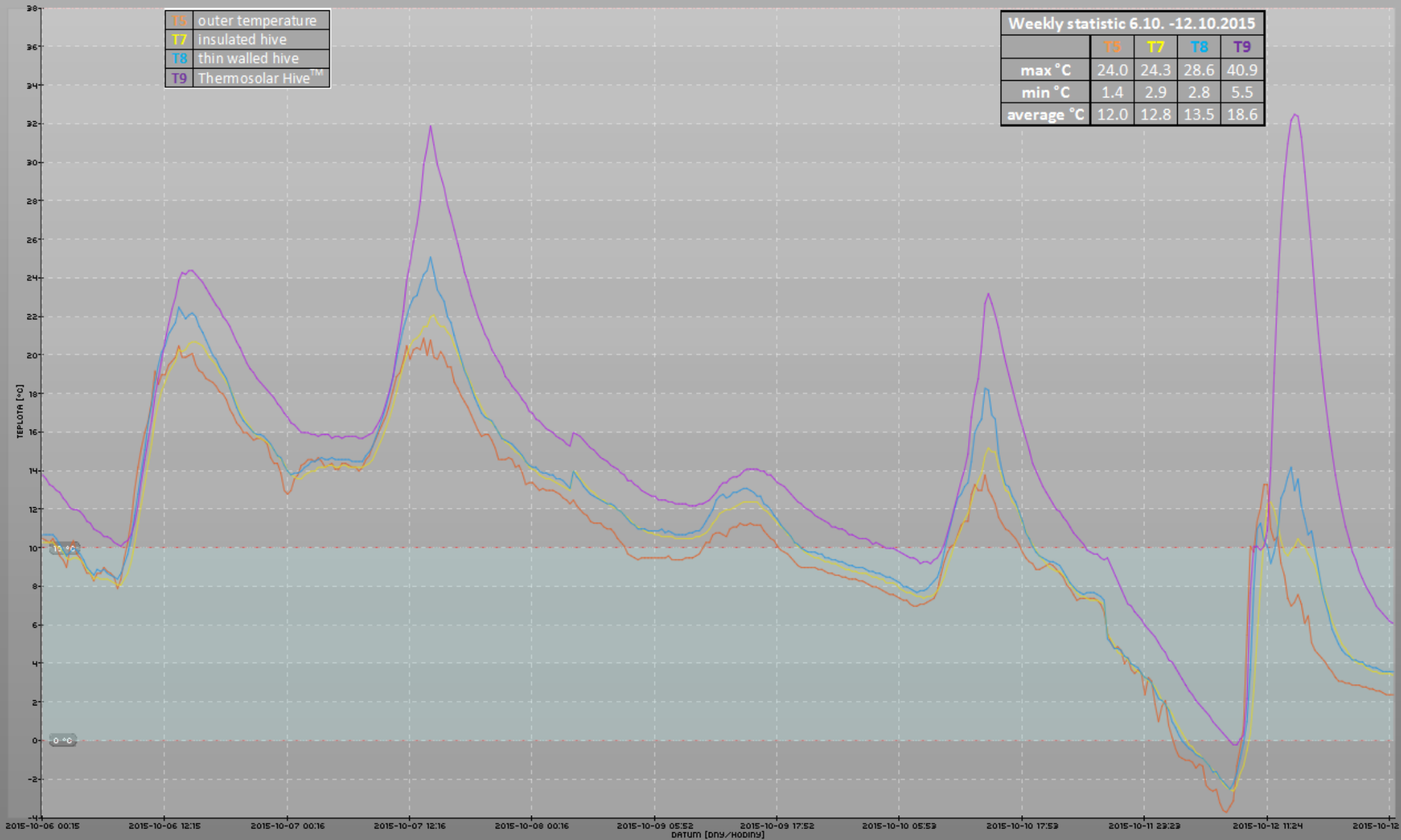


Telemetrie (2015-10-06 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 6.10. -12.10.2015				
	T5	T7	T8	T9
max °C	24.0	24.3	28.6	40.9
min °C	1.4	2.9	2.8	5.5
average °C	12.0	12.8	13.5	18.6

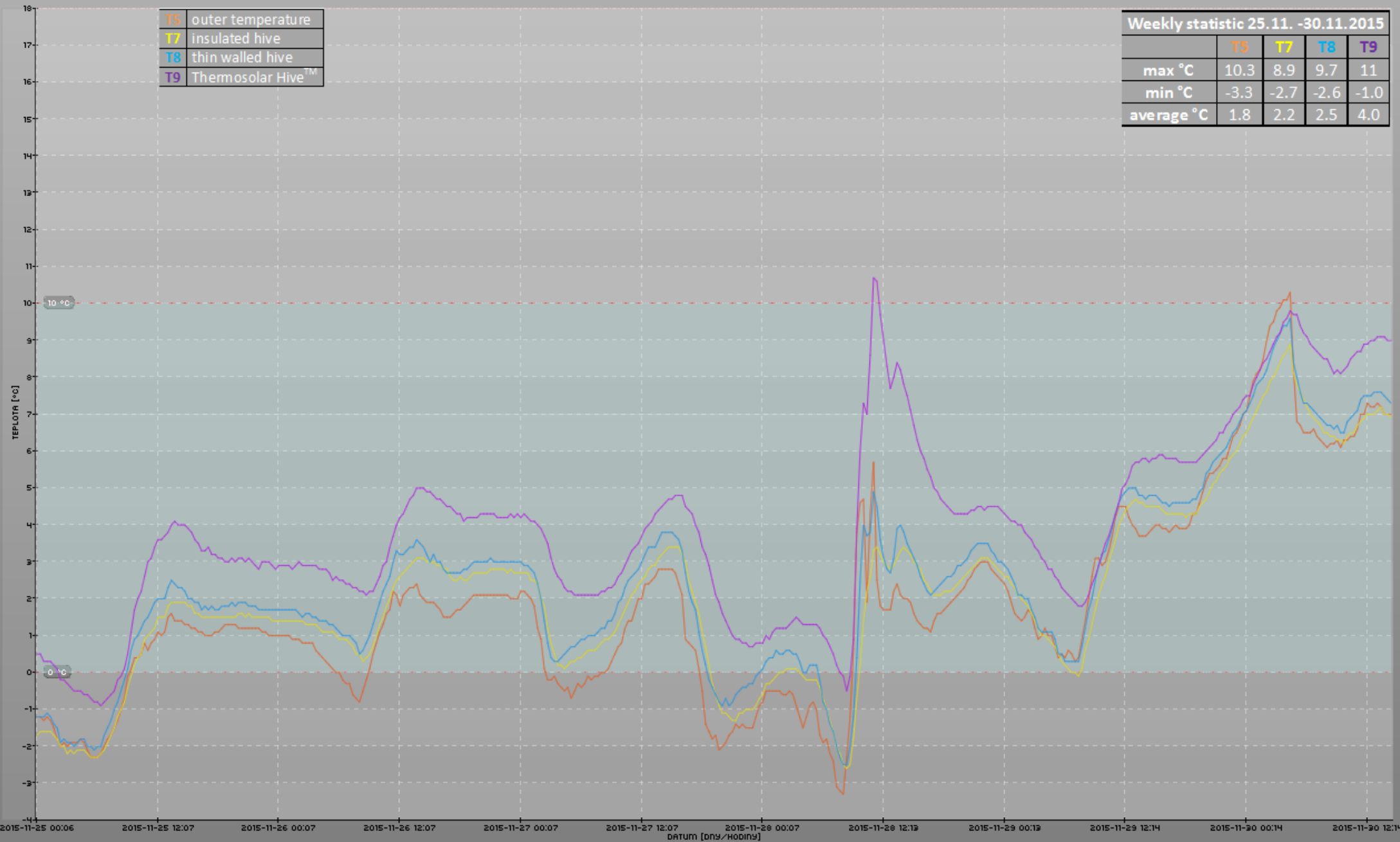


Telemetrie (2015-11-25 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Thermosolar Hive™

Weekly statistic 25.11. -30.11.2015				
	T5	T7	T8	T9
max °C	10.3	8.9	9.7	11
min °C	-3.3	-2.7	-2.6	-1.0
average °C	1.8	2.2	2.5	4.0



Telemetrie (2015-12-02 + 1 tyden)

T5 T7 T8 T9

T5	outer temperature
T7	insulated hive
T8	thin walled hive
T9	Themosolar Hive™

Weekly statistic 4.12. -8.12.2015				
	T5	T7	T8	T9
max °C	12.2	10.6	12.7	29.4
min °C	2.9	2.9	3.1	3.7
average °C	6.0	6.2	6.7	10.0

