

Coolbot Performance Test

Participants: Julia Gómez (UCDavis)
Date: February 3-4, 2011/March 9-10, 2011
Place: Comunidad de Buenos Aires, Cortés, Honduras

Summary

The purpose of these experiments was to improve the performance of the coolbot with its cooling rate.

The first experiment done in February was done to know the cooling rate for the coolbot to lower temperature to 15 C with a frost temperature at 10C. Sensors were located on walls inside and outside of the cool room to record temperature. The recording of the cool-room lasted 12h with sample recordings every 30minutes. (See attachment for data collected).

Results were discussed with Dr. Michael Reid from UC Davis & collaborators to improve temperature consistence and maybe cooling rate. For what a second test was programmed in order to change the coolbot setup.

The second experiment done in March was to know the cooling rate for the coolbot when set at 15C and frost temperature at 2.5C. Sensors were located on walls inside and outside of the cool room to record temperature. The recording for this test lasted 24h with sample recordings every 30 minutes. (See attachment for data collected).

Results were discussed again with UC Davis collaborators and we determine the coolbot was working good with a cooling rate faster than the rate tested in February. The consistence of the temperature was better now than in February; this will help maintain product quality.

We left the last setup on the coolbot for the growers to use the coolbot in optimum conditions.

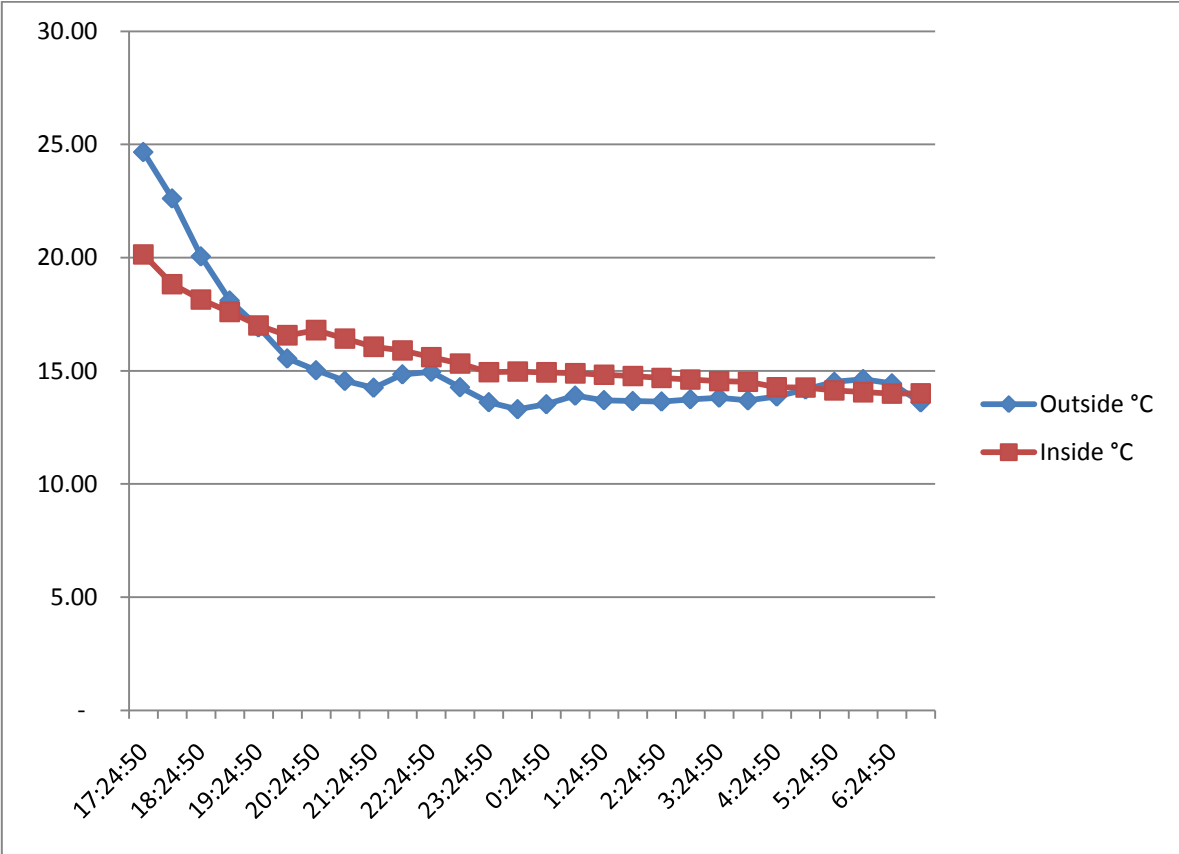
Room Temperature was set to 15C and Frost Temperature set at 10C

12H Recording

Sample Interval every 30min

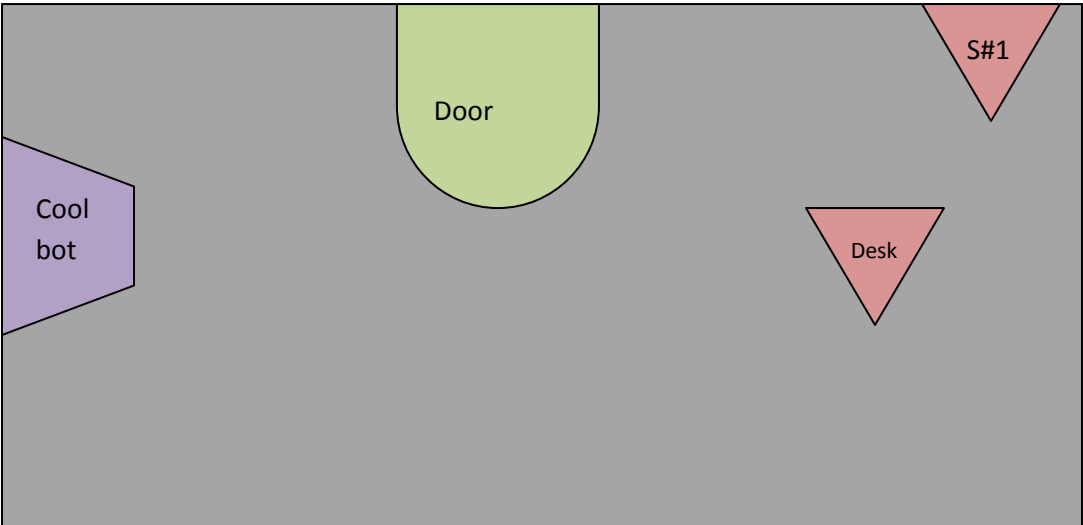
Date	Time	Outside	Inside	Desk	Wall
		°C	°C	°C	°C
2/3/2011	17:24:50	24.66	20.14	19.25	21.02
2/3/2011	17:54:50	22.61	18.83	17.97	19.68
2/3/2011	18:24:50	20.05	18.15	17.35	18.94
2/3/2011	18:54:50	18.10	17.60	16.83	18.37
2/3/2011	19:24:50	16.91	17.01	16.27	17.74
2/3/2011	19:54:50	15.54	16.57	15.87	17.27
2/3/2011	20:24:50	15.02	16.80	16.23	17.36
2/3/2011	20:54:50	14.55	16.43	15.86	16.99
2/3/2011	21:24:50	14.25	16.06	15.53	16.59
2/3/2011	21:54:50	14.84	15.90	15.40	16.40
2/3/2011	22:24:50	14.95	15.60	15.08	16.12
2/3/2011	22:54:50	14.27	15.32	14.81	15.82
2/3/2011	23:24:50	13.61	14.94	14.44	15.43
2/3/2011	23:54:50	13.30	14.97	14.52	15.41
2/4/2011	0:24:50	13.52	14.93	14.56	15.30
2/4/2011	0:54:50	13.90	14.89	14.52	15.26
2/4/2011	1:24:50	13.70	14.82	14.44	15.20
2/4/2011	1:54:50	13.66	14.77	14.44	15.10
2/4/2011	2:24:50	13.64	14.68	14.34	15.02
2/4/2011	2:54:50	13.74	14.61	14.32	14.90
2/4/2011	3:24:50	13.81	14.54	14.25	14.83
2/4/2011	3:54:50	13.69	14.51	14.24	14.78
2/4/2011	4:24:50	13.86	14.28	14.00	14.55
2/4/2011	4:54:50	14.17	14.26	14.01	14.50
2/4/2011	5:24:50	14.51	14.13	13.90	14.36
2/4/2011	5:54:50	14.63	14.06	13.85	14.26
2/4/2011	6:24:50	14.44	13.99	13.82	14.16
2/4/2011	6:54:50	13.60	14.00	13.88	14.12

Average Inside Temperature compare with Outside Temperature



It took approx. 4.5h to lower the Temperature from 20.1C to 15.9C. (A rate of cooling down 0.94C/H)

Thermocouples Distribution Inside the Coolroom



Room Temperature was set to 15C and Frost Temperature set at 2C

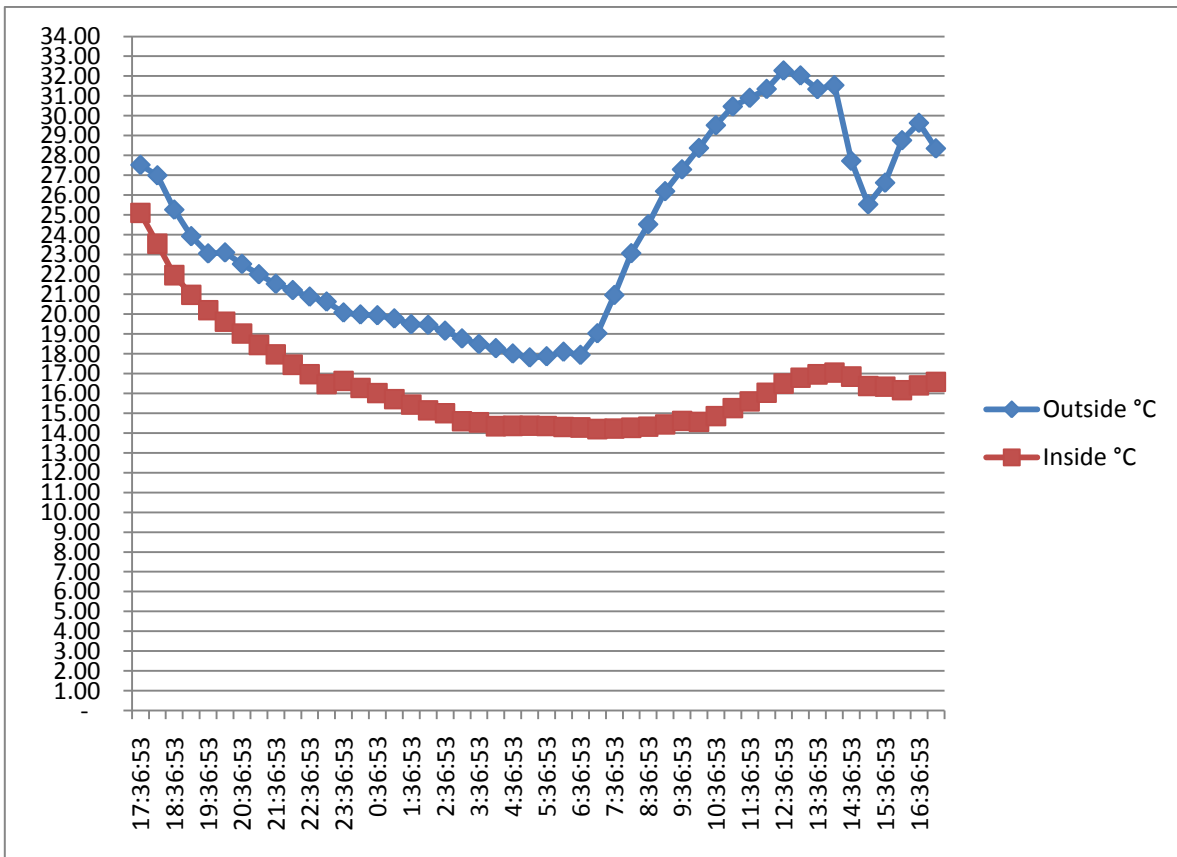
24H Recording

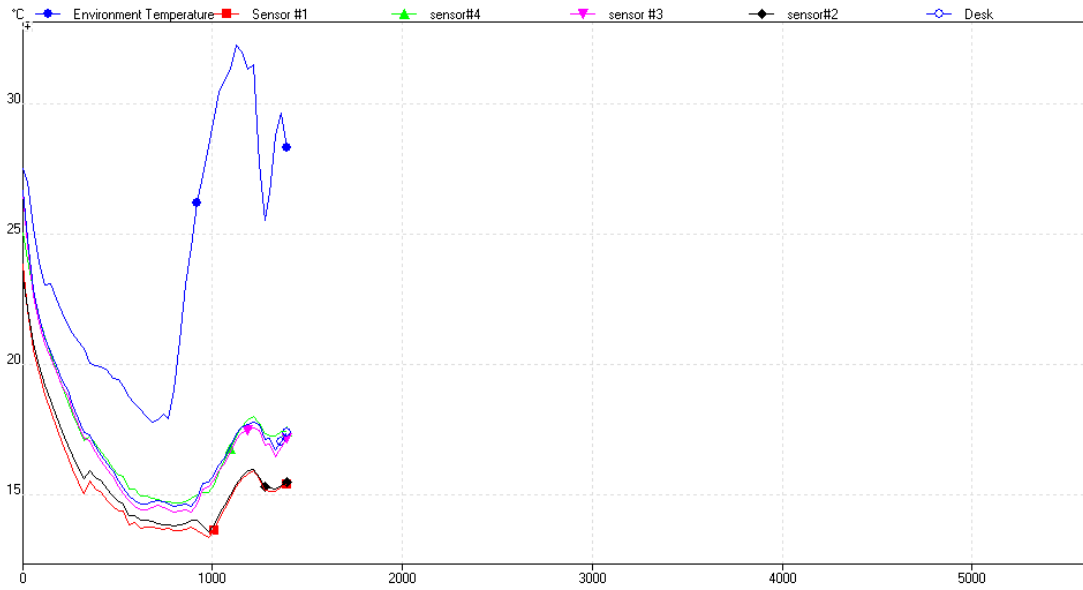
Sample Interval every 30min

Date	Time	Outside	Inside	Sensor #1	Sensor #4	Sensor #3	Sensor #2	Desk
		°C	°C	°C	°C	°C	°C	°C
3/9/2011	17:36:53	27.52	25.10	23.87	25.05	26.59	23.31	26.68
3/9/2011	18:06:53	26.99	23.54	22.10	24.03	24.61	22.16	24.82
3/9/2011	18:36:53	25.26	21.96	20.59	22.84	22.68	20.80	22.89
3/9/2011	19:06:53	23.92	20.97	19.68	21.81	21.59	19.95	21.80
3/9/2011	19:36:53	23.05	20.19	18.87	21.05	20.80	19.22	21.01
3/9/2011	20:06:53	23.10	19.61	18.22	20.41	20.29	18.62	20.51
3/9/2011	20:36:53	22.52	19.01	17.60	19.76	19.73	18.03	19.95
3/9/2011	21:06:53	22.00	18.44	17.01	19.16	19.18	17.45	19.40
3/9/2011	21:36:53	21.52	17.96	16.46	18.59	18.80	16.92	19.04
3/9/2011	22:06:53	21.20	17.44	15.97	18.09	18.21	16.51	18.43
3/9/2011	22:36:53	20.87	16.96	15.50	17.60	17.71	16.06	17.94
3/9/2011	23:06:53	20.62	16.47	15.03	17.10	17.18	15.63	17.40
3/9/2011	23:36:53	20.07	16.63	15.51	17.27	17.10	15.95	17.31
3/10/2011	0:06:53	19.97	16.27	15.24	16.94	16.63	15.68	16.86
3/10/2011	0:36:53	19.93	16.01	15.08	16.65	16.30	15.51	16.51
3/10/2011	1:06:53	19.77	15.71	14.79	16.36	15.96	15.24	16.18
3/10/2011	1:36:53	19.48	15.43	14.53	16.04	15.71	14.95	15.93
3/10/2011	2:06:53	19.45	15.14	14.36	15.76	15.32	14.72	15.54
3/10/2011	2:36:53	19.15	15.00	14.36	15.69	15.04	14.65	15.25
3/10/2011	3:06:53	18.76	14.60	13.84	15.21	14.76	14.22	14.96
3/10/2011	3:36:53	18.48	14.54	13.94	15.22	14.54	14.22	14.76
3/10/2011	4:06:53	18.27	14.34	13.71	14.95	14.42	14.01	14.63
3/10/2011	4:36:53	18.00	14.36	13.76	14.96	14.42	14.02	14.63
3/10/2011	5:06:53	17.80	14.37	13.75	14.88	14.52	13.96	14.73
3/10/2011	5:36:53	17.86	14.35	13.70	14.80	14.58	13.89	14.80
3/10/2011	6:06:53	18.09	14.30	13.67	14.75	14.52	13.85	14.72
3/10/2011	6:36:53	17.93	14.28	13.72	14.74	14.42	13.86	14.64
3/10/2011	7:06:53	19.02	14.20	13.61	14.67	14.34	13.82	14.55
3/10/2011	7:36:53	20.95	14.23	13.63	14.69	14.37	13.85	14.59
3/10/2011	8:06:53	23.06	14.26	13.66	14.72	14.43	13.87	14.63
3/10/2011	8:36:53	24.52	14.31	13.77	14.86	14.35	14.03	14.56
3/10/2011	9:06:53	26.19	14.43	13.63	14.99	14.65	14.03	14.87
3/10/2011	9:36:53	27.29	14.61	13.48	15.08	15.24	13.81	15.45

3/10/2011	10:06:53	28.37	14.56	13.35	15.07	15.29	13.58	15.50
3/10/2011	10:36:53	29.52	14.86	13.64	15.41	15.59	13.83	15.81
3/10/2011	11:06:53	30.47	15.26	14.06	15.87	15.95	14.23	16.17
3/10/2011	11:36:53	30.90	15.60	14.45	16.32	16.21	14.60	16.41
3/10/2011	12:06:53	31.35	16.03	14.85	16.78	16.65	14.99	16.87
3/10/2011	12:36:53	32.28	16.49	15.29	17.26	17.14	15.41	17.36
3/10/2011	13:06:53	32.03	16.79	15.60	17.62	17.39	15.72	17.62
3/10/2011	13:36:53	31.34	16.96	15.81	17.88	17.48	15.92	17.69
3/10/2011	14:06:53	31.54	17.05	15.91	18.01	17.57	15.96	17.80
3/10/2011	14:36:53	27.72	16.84	15.61	17.75	17.48	15.68	17.69
3/10/2011	15:06:53	25.53	16.37	15.18	17.35	16.91	15.30	17.12
3/10/2011	15:36:53	26.62	16.34	15.12	17.24	16.93	15.25	17.15
3/10/2011	16:06:53	28.76	16.16	15.13	17.26	16.48	15.23	16.71
3/10/2011	16:36:53	29.64	16.40	15.30	17.44	16.83	15.37	17.04
3/10/2011	17:06:53	28.35	16.57	15.39	17.45	17.16	15.49	17.38

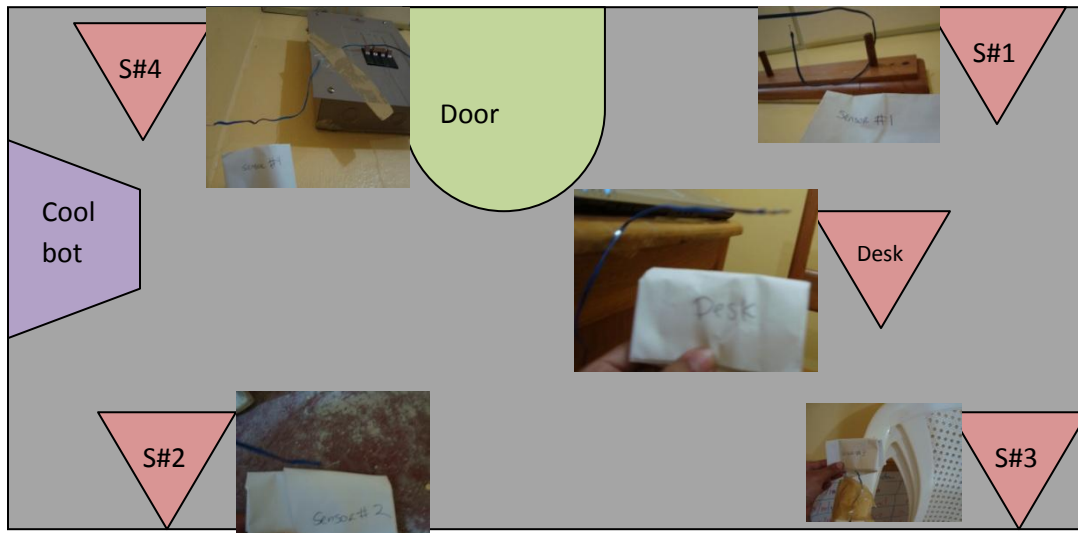
Average Inside Temperature compare with Outside Temperature





It took approx. 7.5h to lower the Temperature from 25C to 15C. (A rate of cooling down 1.25C/H)

Thermocouples Distribution Inside the Coolroom



Business Plan Training

Participants: Empresa Asociativa Campesina de Producción Flores del Lago
Dinie Espinal (University of Zamorano)
Adib Kafati (INFOP)
Julia Gómez (UC Davis)

Date: April 4-8, 2011

Place: Comunidad Los Naranjos, Cortés

Summary

During this period we detected that growers had no knowledge in business skills. Through University of Zamorano we contacted INFOP, a government institution that trains Hondurans in various fields (carpentry, plumbing, business, agriculture, etc) to offer growers business skills.

The second training offered to the growers was in Business Plans (see attachment). Flores del Lago needed to establish a prices for domestic and international markets. Also for future approaches with other institutions they would need a profile of the company which provides market study, costs, investment, etc.

Results

Growers had the opportunity to learn doing a Business Plan for Flores del Lago. They work fixing prices, organizing production and merchandising aspects. During the course we collected important data useful to design a Business Plan.

After the course, growers had the opportunity to analyze how prices should be calculated in order to become a moneymaking company in a near future.

Participants showed up excited now they started to see their company becoming more organized as they were learning business skills with the support INFOP and University of Zamorano as part of the project "Building an Ornamental Plant Industry in Honduras".

Pictures

