

Registration area occupancy greenhouse laboratory center Dürnast

status 03/2021

Send the entire electronic document (preferably in Adobe Acrobat) to: ghl@wzw.tum.de

Signatures can either be inserted directly into the PDF, the signed page can be scanned and sent separately, or the document can be signed later directly at GHL.

Note: Before you are a reasons to instruct yo Guideline for https://www.ghl.wzw.tu at GHL for Project Pawith your signature.	u in the saf Experimenta <u>ım.de/interna</u>	ety guidelir lists" (/ <u>ɪl</u> as well a	nes. For Annex-5) s the inf	this pu on ormatior	rpose, the tregard	you h e ding " (ave to GHL Occup a	read the "S1 homepage ational Safety
I have read the "S1 G	uide for Tr	ial Investi	gators"	(status 202	21)			П
I have read the "Occu	pational sa	ety at GHL	for proj	ect par	tners" (status 2	021)	
place, date	First-Las	First-Last-name		signature (user)				
In the following questionn to be cultivated. During t experimenters maintain technical/scientific head cearly stage.	he execution regular c	of experime ontact wit	nts at the	e GHL D respecti	ürnast i ve su p	t is ab ervisi	solutely ng fo	necessary that reman or the
Trial-number: GHL		supervisi	ng maste	er / scier	nt. empl	oyee:		
is awarded internally by GHL		position						
1-about the user chair (LS) / working group	(FG)							
contact person								
Tel. / e-mail								
Invoice type	single invoice (project)			.S/FG				
2-plant material and spa	ce requireme	ent						
plant species								
Type of cultivated area								
Quant. Plants			1			m² / tal	oles (sp	ace)
period of use (from / to)			1					
experiment-relevant-plant	-material:							
☐ flours ☐ fruits [leaves	seeds 🔲	oots	othe	ers (plea	se exp	ain)	

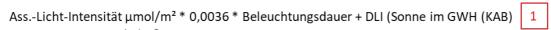
3-climatic-conditio	ns				
analog to GHL-star (then do not answer 3.1 -	ndard-culture instruction 4 further)	ns 🗌			
3.1-temperature: (GWH ¹ , GWH-KAB ² , PA	day:	night:	°C (climatic compouter)		
Depending on the cult	be adjusted according to ligh ivation system and the seaso res (see: GHL homepage / Iı	on, the actual temperat	tures can deviate very		
3.2-humidity: (PAR ³ , KS ⁴)					
3.3-lightning: Info al	pout the DLI can be found at the	end of the form DLI = F	PPFR * 0,0036 * Exposure time		
PAR ³ , KS ⁴	PAR: max. 500µmol/m²,	KS: max. 300 μmol/n	n²*s		
PPF	FR (µmol/m²*s):	duration (h/d):	DLI (mol/m²d):		
		optimal	DLI for the culture (mol/m²d):		
4.					
GWH ¹ :	Assimilation light	(ASL) (max. 100 μn	nol/m²s) yes no		
ap. 60% of the outside	_		D/// // 3.0		
ASL-PPFR (µmol/m	,	during (h/d):	DLI (mol/m²d):		
	pius 80°- 60°° % of the	average DLI depen	ding on the season (mol/m²d):		
*summer (direct radiation	n), **winter (diffuse radiation)	optimal	DLI for the culture (mol/m²d):		
	Shading from a light	t intensity of (light s	stress)		
klux (outside)					
GWH-KAB ²	Assimilation light	(ASL) (max. 200 μn	nol/m²s)		
ap. 30% of the outside	•	(/ 10 <u>L</u>) (max. 200 pm	3,		
	-PPFR (μmol/m²*s): 200	duration (<i>h/d</i>):	ASL-DLI (mol/m²d):		
	.,	` ,	nding on the season (mol/m²d):		
	·				
*summer (direct radiation	on), **winter (diffuse radiation)	optim	al DLI for the culture (mol/m²d):		
	Shading from a light	t intensity of (light	•		
			klux (outside)		
4-culture-substrate	e / culture-vessels / irrig	ation / fertilization			
4.1-soil			if others: whitch		
4.2-pots / bowls	quantity	, ,	quantity		
4.3-irrigation	☐ tide ☐	drip	fertilization		
4.4-waterquality					

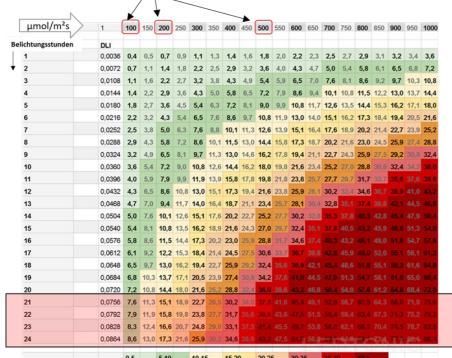
^{*1:} GWH: greenhouse; 2: GWH-KAB: greenhouse-chamber; 3: PAR: climate-chamber (-cold)-raum 4: KS: climate-cabinet

5-plant protect	tion / limitations due to the experimental question
	no treatment
	Only possible in separated culture areas, as risk of spreading to other experiments in case of infestation
	treatment only after consultation
	biological plant protection
Ш	chemical plant protection The treetment is corried out evaluaively according to BVI, guidelines, we call to take
	The treatment is carried out exclusively according to BVL guidelines, we ask to take this into account!
	In artificial light rooms chemical plant protection is only possible to a very limited extent!
6-measureme	nt data acquisition (calculation according to expenditure)
	sensors are installed
	What measurement data is needed?
	Further information / possibly a short description of the experiment
	Agreements / special services:
-	tion of the title of the experiment and/or the author of the experiment on the GHL page desired?
	——————————————————————————————————————
special, expe	periment organizer are responsible for the safety of our employees if they have to handle iment-specific equipment and substances (fertilizers, pesticides, chemicals,) in your nerefore, you must have extensive knowledge of these hazards and inform us about them.
Do yo	ur experiments pose risks to humans and the environment?
	☐ yes ☐ no



Information to lightning





Richtwerte DLI

Kultur	DLI (mol/m²d)
Stecklinge frühe Phase	4
Stecklinge späte Phase	6
Sämlinge frühe Phase	6
Sämlinge späte Phase	10
Blattgemüse und Kräuter	12
Kopfsalat	12
Gurke	15
Paprika	15
Aubergine	15
Tomate	15
Mais	20

Sonne: DLI (mol/m²d) DWD-2013-17 1 GHL-Leuchten: DLI (mol/m²d)

Monat Freiland		GWH (60%)	GWH-KAB (30%)	
Januar 4.77		2.86	1.72	
Februar	7.38	4.43	2.66	
März	14.46	8.67	5.20	
April	16.58	9.95	5.97	
Mai	23.74	14.25	8.55	
Juni 28.63		17.18	10.31	
Juli	29.96	17.98	10.79	
August	25.66	15.40	9.24	
September	15.75	9.45	5.67	
Oktober	9.59	5.75	3.45	
November 5.01		3.00	1.80	
Dezember 4.03		2.42	1.45	

Leuchten am GHL	μmol/m²s	DLI bei 12 h/d	DLI bei 16 h/d	DLI bei 20 h/d
HID alt GWH	< 50	2.16	2.88	3.60
HID/CDM neu GWH	max 100	4.32	5.76	7.20
HID/CDM neu GWH-KAB	max 200	8.64	11.52	14.40
PAR/PKR-LED	max 500	21.60	28.80	36.00

Fui	ther information or culture data