

HC70AL Spring 2011

*Data Recording & Organization -
Introduction to the Webbook and Lab Blue Books*

By

Brandon Le

March 28, 2011

**Webbook -
A Virtual Lab Notebook**

Webbook is a web lab notebook

Purpose/goal: To have access to experiments carried out by students, Lab members, etc... from anywhere. Also serves as a repository for protocols, stocks/reagents

Created by: Harry Hahn
Brandon Le
Bob Goldberg

<http://estdb.biology.ucla.edu/webbook>

[Using the Webbook \(Overview\)](#)

1. **Username:** email username
Password: 9-digit student id
2. Check message board for important news/updates
3. An overview of the different sections

Projects - list of experiments

Stocks - catalog of stocks/reagent in the lab

Protocols - procedures carried out in the lab (pdf format)

Calendar - calendar to plan your experiments

Browse - search and look at lab members' experiments

Contact - email for help

Logout - will automatically logout if idle for 30 min

Webbook Login Page

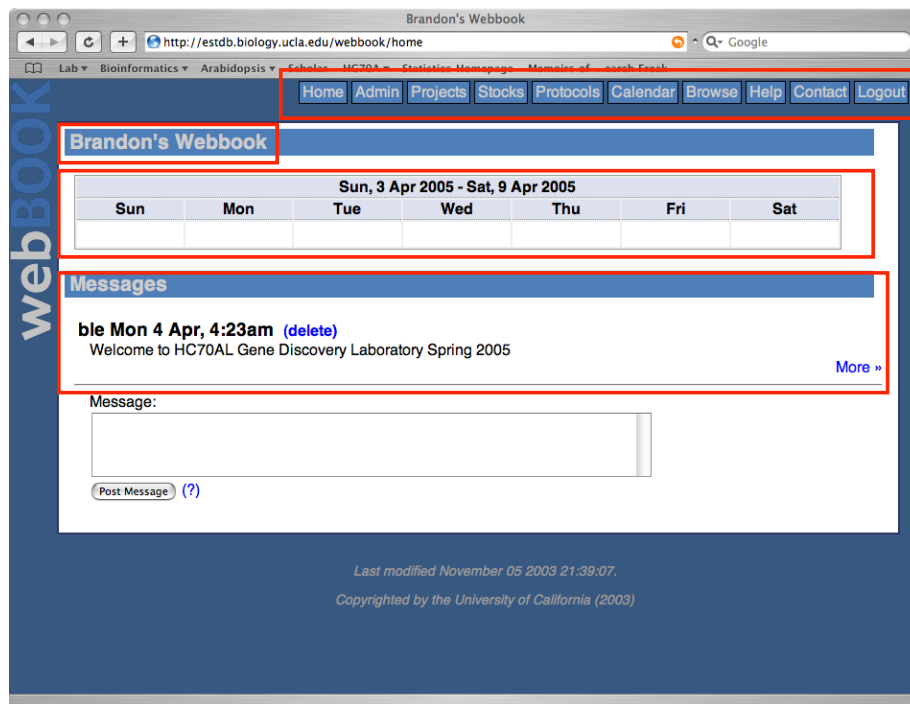
webBOOK Login

Username: Password:

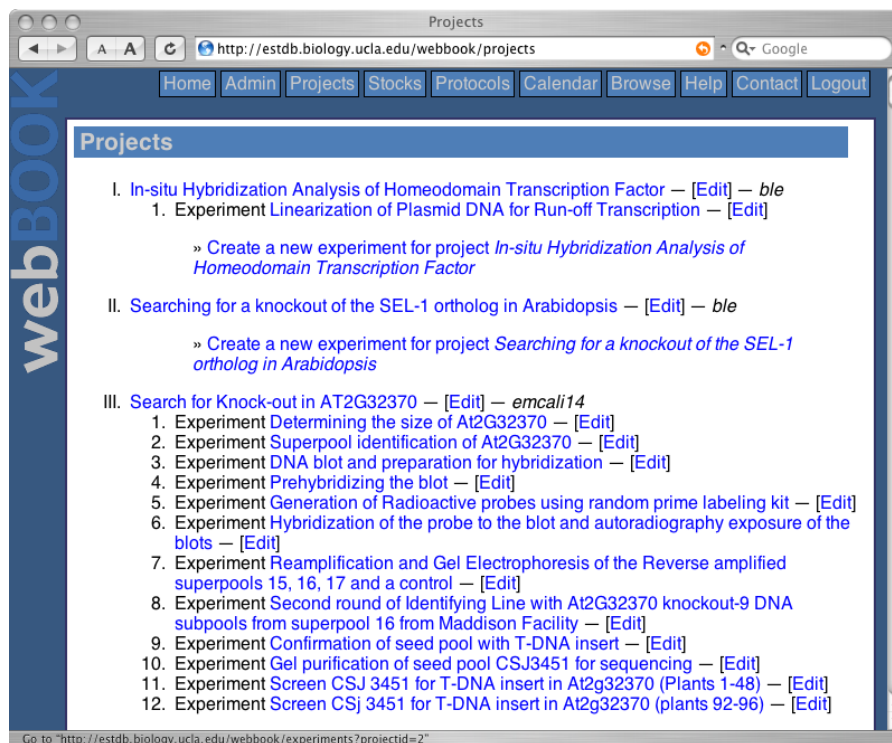
Email username 9-digit Student ID

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Created by Harry Hahn and Brandon Le, Laboratory of Bob Goldberg, UCLA

Webbook Home Page



Creating a Project



Creating a Project

The screenshot shows a web browser window with the URL <http://estdb.biology.ucla.edu/webbook/projects?mode=edit>. The page has a navigation bar with links: Home, Admin, Projects, Stocks, Protocols, Calendar, Browse, Help, Contact, Logout. The main content area is titled 'Projects' and 'Create Project record'. It includes a note: 'Fields marked with a red asterisk (*) are REQUIRED'. There are three input fields: 'Title of project*', 'Question being asked*', and 'Summary*'. Below these fields is a 'Create' button. A footer note states: 'Once you've created a project record, you may edit it to associate genes, references, and experiments to the project.' The page is dated 'Last modified August 03 2003 21:16:09' and 'Copyrighted by the University of California (2003)'.

Projects

Create Project record

Fields marked with a red asterisk (*) are REQUIRED

Title of project*

Question being asked*

Summary*

Create

Once you've created a project record, you may edit it to associate genes, references, and experiments to the project.

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Creating a Project

The screenshot shows a web browser window with the URL <http://estdb.biology.ucla.edu/webbook/projects>. The page displays a list of experiments under the heading '7. Experiment RT-PCR — [Edit]'. A red box highlights a section of the list. Below the list, there is a 'Create a new experiment for project' link. The page is dated 'Last modified August 03 2003 21:16:09' and 'Copyrighted by the University of California (2003)'.

Projects

7. Experiment RT-PCR — [Edit]

» Create a new experiment for project *The AT4G37790 Gene in the Arabidopsis Plant: Identifying a Knockout*

XXX. Knockout Identification in AT5G03220 — [Edit] — sans_sens7

1. Experiment (3) Gel Electrophoresis of AT5G03220 Gene Specific PCR Product — [Edit]
2. Experiment (4) Negatively Controlled Gel Electrophoresis Repetition Expt. for AT5G03220 — [Edit]
3. Experiment (2) Accuracy and Precision: Dilution Expt. — [Edit]
4. Experiment (1) Micropipetting Exercise — [Edit]
5. Experiment (5) Forward Primer Gel Blot AT5G03220 — [Edit]
6. Experiment (6) Reverse Primer Blot AT5G03220 — [Edit]
7. Experiment (7,8,9) Forward and Reverse Blot Washes, Autoradiography, and Identification of Gene-Specific Knockout Lines — [Edit]
8. Experiment (11) Gel Purification of Superpools #1 and #2 — [Edit]
9. Experiment (10) Reamplification of Superpool #1, 2, and 3 DNA PCR Product — [Edit]
10. Experiment (13) Big Dye Sequencing Reaction with Superpools #1 and 2 (Trial 1) — [Edit]
11. Experiment (14) Two Repetitions of Big Dye Experiment for Retry at Sequencing — [Edit]
12. Experiment (12) Sowing Seeds of Arabidopsis Thaliana — [Edit]
13. Experiment (15) RNA Work—Isolation and Fractionation of RNA found in Scarlet Runner Bean Flower and Leaf — [Edit]
14. Experiment (16) RNA Work with DNase—Isolation and Fractionation of RNA found in Scarlet Runner Bean Flower and Leaf — [Edit]
15. Experiment (17) Synthesis of cDNA for RT-PCR and Fractionation Analysis of Products on Gel Electrophoresis — [Edit]
16. Experiment (18) Gene Chip Analysis of mRNA Activity in Arabidopsis thaliana — [Edit]
17. Experiment (19) DNA Pool Screening for T-DNA Insertion Candidates—Round 2 — [Edit]
18. Experiment (20) Isolation of Genomic DNA from SALK Plants — [Edit]
19. Experiment (21) Gel Purification and of DNA Pool #6 for Sequencing — [Edit]
20. Experiment (22) PCR Analysis of DNA Isolated from First Harvest from SALK 109178 Plant Candidates — [Edit]
21. Experiment (23) Collection of DNA from Next Harvest Round, Dilution and Genotypic Analysis — [Edit]
22. Experiment (24) Genotyping PCR-Gene Specific and T-DNA — [Edit]

» Create a new experiment for project *Knockout Identification in AT5G03220*

XXXI. Knockout Identification in Arabidopsis Gene AT2G37120 — [Edit] — jziskind

1. Experiment Gel Electrophoresis of Gene-Specific PCR Product (3) — [Edit]
2. Experiment Micropipetting Exercise (1) — [Edit]
3. Experiment Dilution Experiment (Accuracy and Precision) (2) — [Edit]

Creating a Project

Projects

http://estdb.biology.ucla.edu/webbook/projects?id=9

Home Admin Projects Stocks Protocols Calendar Browse Help Contact Logout

Projects

Project Search for knockout in Mel 26 — [Edit]

Owner	emcali14
Question being asked:	What is the mutant phenotype that results from disrupting the transcription factor, Mel 26, in the Arabidopsis genome?
Summary	A transcription factor gene is isolated from the Scarlet Runner Bean genome that is active in the formation and activities of the embryo proper. This gene is isolated using ESTs and then cloned in a cDNA library. The gene is then sequenced, and the Arabidopsis genome is scanned to find the homolog for the Mel 26 gene. Once the Arabidopsis homologous sequence is identified, lines of Arabidopsis knock-outs are screened from superpools obtained from the Maddison Facility in Wisconsin. Autoradiography is used to expose a radioactive probe of the gene that hybridizes to the knockout fragment containing the Mel 26 gene. This fragment is then sequenced, and the specific line containing the knock-out is identified. This line can then be studied to determine the mutant effects, which in turn indicates the function of the gene in the developing embryo.
Experiments associated with this project:	<ol style="list-style-type: none">1. Determine the Length of Mel 26 gene in Arabidopsis Genome2. PCR amplification of Mel26 in Arabidopsis genome3. Gel Electrophoresis of 30 superpools to determine a line with a knockout Mel264. DNA blot and transfer to nitrocellulose paper5. Prehybridizing the blots6. Generate Radioactive probes using random prime labeling kit7. Hybridization of the probe to the blot and autoradiography exposure of the blots8. Reamplification of FW Superpools 7, 8, 9 of Mel-26

[» Enter an experiment for this project](#)
[» Enter a gene for this project](#)
[» Enter a reference for this project](#)

Entering Gene Information

Genes

http://estdb.biology.ucla.edu/webbook/genes?projectid=2

Home Admin Projects Stocks Protocols Calendar Browse Help Contact Logout

Genes

Create gene

Fields marked with a red asterisk (*) are **REQUIRED**

Gene Name:*	<input type="text"/>
Species:	<input type="text"/>
Sequence:	<input type="text"/>
Sequence Type:*	-- Select --
Amino Acid Sequence:	<input type="text"/>
Chromosome:	<input type="text"/>
EST Data:	<input type="text"/>
Functional Category:	<input type="text"/>
Promoter:	<input type="text"/>
Domains:	<input type="text"/>
Hits:	<input type="text"/>

Entering Gene Information

Domains:	<input type="text"/>
Hits:	<input type="text"/>
Attach a file:	<div><div>Title: <input type="text"/></div><div>File: <input type="button" value="Choose File"/> no file selected</div><div>Description: <input type="text"/></div></div> <div>Files must have extensions (.doc, .xls, .jpg, .gif, .png)</div> <div>All files must have a file name extension. Images must end in .jpg, .png, or .gif. Additional files can be attached by later editing this record.</div> <div><input type="button" value="Create"/></div>

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Entering Experiments Information

Experiments

http://estdb.biology.ucla.edu/webbook/experiments?projectid=2

Home Admin Projects Stocks Protocols Calendar Browse Help Contact Logout

Experiments

Fields marked with a red asterisk (*) are **REQUIRED**

Title:*	<input type="text"/>
Goal:*	<input type="text"/>
Background Info:*	<input type="text"/>
Approach:*	<input type="text"/>
Controls:*	<input type="text"/>
Discussion:	<input type="text"/>
Next:	<input type="text"/>
Materials	<div><div>Primer * <input type="text" value="AT2G22800-FW"/> <input type="text" value="AT2G22800-RV"/> <input type="text" value="AT2G23290-FW"/> <input type="text" value="AT2G23290-RV"/> <input type="text" value="AT2G37120-FW"/></div><div>Seed * <input type="text" value="SALK_123942"/></div></div>

Entering Experiments Information

Experiments

http://estdb.biology.ucla.edu/webbook/experiments?projectid=2

AT2G22800-FW
AT2G22800-RV
AT2G23290-FW
AT2G23290-RV
AT2G37120-FW
AT2G37120-RV
AT3G09735-FW
AT3G09735-RV

SALK_12394Z

Protocols: **Protocols ***

*Sequencing Using SPPCR
Alkali Lysis Plasmid Isolation
Arabidopsis Tissue Harvest For GeneChip Experiment
Bacteria Chromosome Mini-Prep
Bacterial Competent Cell Preparation
Bacteriophage

Attach a file: **Title:**

File:

Choose File no file selected

Description:

All files must have a file name extension. Images must end in .jpg, .png, or .gif. Additional files can be attached by later editing this record.

* To select multiple options, use Control-click (Windows) or Command-click (Macintosh). This can be used to de-select an item as well.

Create

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Entering Experiments Information

Experiments

http://estdb.biology.ucla.edu/webbook/experiments?id=75

Experiments

Experiment Gel Electrophoresis of Gene Specific PCR Product -- [Edit]

Created: 2004-04-08 18:10:14 by gloebu

Last modified: 2004-06-08 12:33:19

Goal: To determine the size of the gene specific PCR product.

Background: 1. PCR was done beforehand by DMs.

Approach: 1. Carry out gel electrophoresis.
2. Plot results on semi-log paper.

Controls: N/A

Discussion: 1. Results plotted on semi-log paper show the approximate size of the PCR product to be about 1400 bps.
2. Actual size of gene AT3G50060 is 1135 bps and considering the length of the primers, the size of the PCR product should be 1496 bps.
3. The difference can possibly be attributed to the inaccuracy of standard curve graphs because it is a best fit line and not precise.

Next: Carry out PCR experiment

Stocks:

Protocols: HC70AL - WK01 - Gel Electrophoresis

Gel Electrophoresis of Gene AT3G50060 PCR Product

04/06/04
105 Volts; Time: 1 hr
Sample 1 and 2: PCR product (gene At3g50060 + primers)

1
k b S a m p l e
L a d d e r 1 2

Entering References Relating to the Gene

References

Create reference record

Fields marked with a red asterisk (*) are **REQUIRED**

Author(s):*

Title:*

Journal:*

Year:*

PDF File no file selected

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Lab Stocks

Stocks

Primer Stocks

- AT2G22800-FW — [Edit]
- AT2G22800-RV — [Edit]
- AT2G23290-FW — [Edit]
- AT2G23290-RV — [Edit]
- AT2G37120-FW — [Edit]
- AT2G37120-RV — [Edit]
- AT3G09735-FW — [Edit]
- AT3G09735-RV — [Edit]
- AT3G12480-FW — [Edit]
- AT3G12480-RV — [Edit]
- AT3G50060-FW — [Edit]
- AT3G50060-RV — [Edit]
- AT3G53370-FW — [Edit]
- AT3G53370-RV — [Edit]
- AT3G56230-FW — [Edit]
- AT3G56230-RV — [Edit]
- AT4G37260-FW — [Edit]
- AT4G37260-RV — [Edit]
- AT4G37790-FW — [Edit]
- AT4G37790-RV — [Edit]
- AT5G03220-FW — [Edit]
- AT5G03220-RV — [Edit]
- AT5G03500-FW — [Edit]
- AT5G03500-RV — [Edit]
- AT5G19490-FW — [Edit]
- AT5G19490-RV — [Edit]
- AT5G67300-FW — [Edit]
- AT5G67300-RV — [Edit]
- At4g37260-Fw1 — [Edit]
- At4g37790-Fw1 — [Edit]
- AtAuxinbHLH_FW — [Edit]
- AtAuxinbHLH_RV — [Edit]
- AtEY2_FW — [Edit]
- AtEY2_RV — [Edit]

Lab Stocks

Stocks

http://estdb.biology.ucla.edu/webbook/stocks?id=33

Location: Refrigerator in Radioactivity Room

Volume: 185 μ L

Concentration: 343.8 μ M

Source: Invitrogen

Sequence: 5'- TTGGTCAACCTTTGCAAGTAAGAAAAATA - 3'

Tm: 64.79 $^{\circ}$ C

Gene: AT2G22800

Figure 1

A = Forward and Reverse Primers B = Forward and Reverse and J1.202

Figure 1. Testing Gene-Specific Primers. Gel electrophoresis of PCR products using gene-specific primers to determine if the gene-specific primers work. Ten micro-liter of PCR product was loaded on a 1% agarose gel. The gel was run at 80 volts for 2.5 hours. 1-Kb ladder was loaded on each side of the

Lab Protocols

Protocols

http://estdb.biology.ucla.edu/webbook/protocols

Home Admin Projects Stocks Protocols Calendar Browse Help Contact Logout

Protocols

Select a category of protocols to display: All View

Create protocol

Protocol Name:

Category:

File: no file selected

File type:

Create

DNA

RNA

Plant Tissue Culture

Knockout

GeneChip

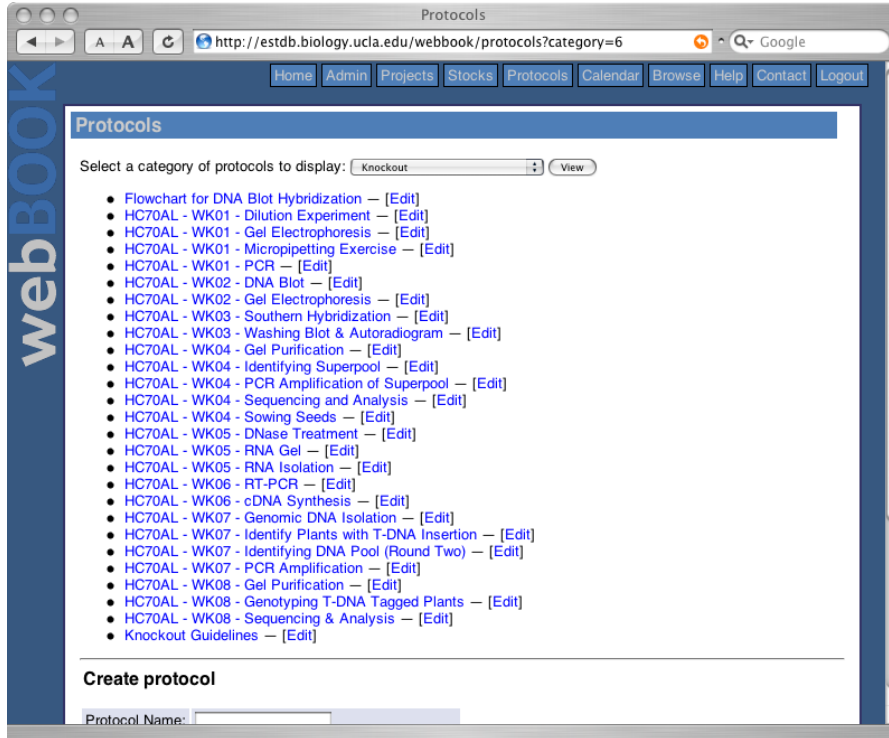
Microscopy

Computer

Last modified A

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Lab Protocols



The screenshot shows a web browser window titled "Protocols" with the URL <http://estdb.biology.ucla.edu/webbook/protocols?category=6>. The page has a navigation bar with links: Home, Admin, Projects, Stocks, Protocols, Calendar, Browse, Help, Contact, Logout. A vertical "webBOOK" logo is on the left. The main content area is titled "Protocols" and contains a dropdown menu set to "Knockout" with a "View" button. Below this is a list of protocols, each with an "[Edit]" link. At the bottom, there is a "Create protocol" section with a "Protocol Name:" input field.

Protocols

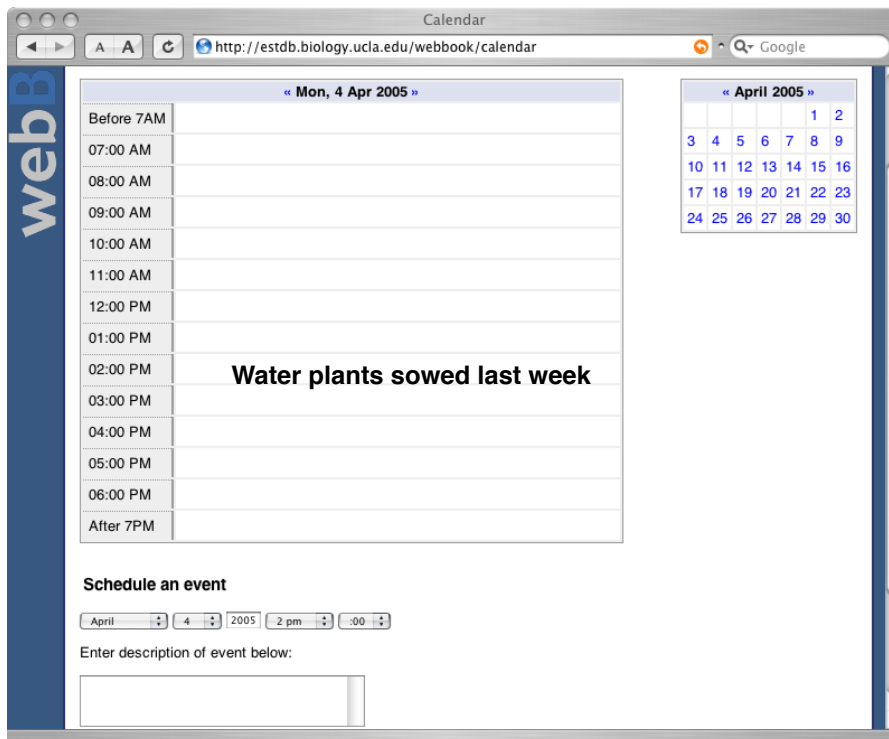
Select a category of protocols to display:

- Flowchart for DNA Blot Hybridization — [Edit]
- HC70AL - WK01 - Dilution Experiment — [Edit]
- HC70AL - WK01 - Gel Electrophoresis — [Edit]
- HC70AL - WK01 - Micropipetting Exercise — [Edit]
- HC70AL - WK01 - PCR — [Edit]
- HC70AL - WK02 - DNA Blot — [Edit]
- HC70AL - WK02 - Gel Electrophoresis — [Edit]
- HC70AL - WK03 - Southern Hybridization — [Edit]
- HC70AL - WK03 - Washing Blot & Autoradiogram — [Edit]
- HC70AL - WK04 - Gel Purification — [Edit]
- HC70AL - WK04 - Identifying Superpool — [Edit]
- HC70AL - WK04 - PCR Amplification of Superpool — [Edit]
- HC70AL - WK04 - Sequencing and Analysis — [Edit]
- HC70AL - WK04 - Sowing Seeds — [Edit]
- HC70AL - WK05 - DNase Treatment — [Edit]
- HC70AL - WK05 - RNA Gel — [Edit]
- HC70AL - WK05 - RNA Isolation — [Edit]
- HC70AL - WK06 - RT-PCR — [Edit]
- HC70AL - WK06 - cDNA Synthesis — [Edit]
- HC70AL - WK07 - Genomic DNA Isolation — [Edit]
- HC70AL - WK07 - Identify Plants with T-DNA Insertion — [Edit]
- HC70AL - WK07 - Identifying DNA Pool (Round Two) — [Edit]
- HC70AL - WK07 - PCR Amplification — [Edit]
- HC70AL - WK08 - Gel Purification — [Edit]
- HC70AL - WK08 - Genotyping T-DNA Tagged Plants — [Edit]
- HC70AL - WK08 - Sequencing & Analysis — [Edit]
- Knockout Guidelines — [Edit]

Create protocol

Protocol Name:

Calendar & Scheduling



The screenshot shows a web browser window titled "Calendar" with the URL <http://estdb.biology.ucla.edu/webbook/calendar>. The page has a navigation bar with links: Home, Admin, Projects, Stocks, Protocols, Calendar, Browse, Help, Contact, Logout. A vertical "webBOOK" logo is on the left. The main content area is titled "Calendar" and shows a daily view for Monday, April 4, 2005. The time slots range from "Before 7AM" to "After 7PM". A calendar widget on the right shows the month of April 2005. Below the calendar, there is a "Schedule an event" section with a date/time picker and a text input field for the event description.

Calendar

« Mon, 4 Apr 2005 »

Before 7AM	
07:00 AM	
08:00 AM	
09:00 AM	
10:00 AM	
11:00 AM	
12:00 PM	
01:00 PM	
02:00 PM	Water plants sowed last week
03:00 PM	
04:00 PM	
05:00 PM	
06:00 PM	
After 7PM	

« April 2005 »

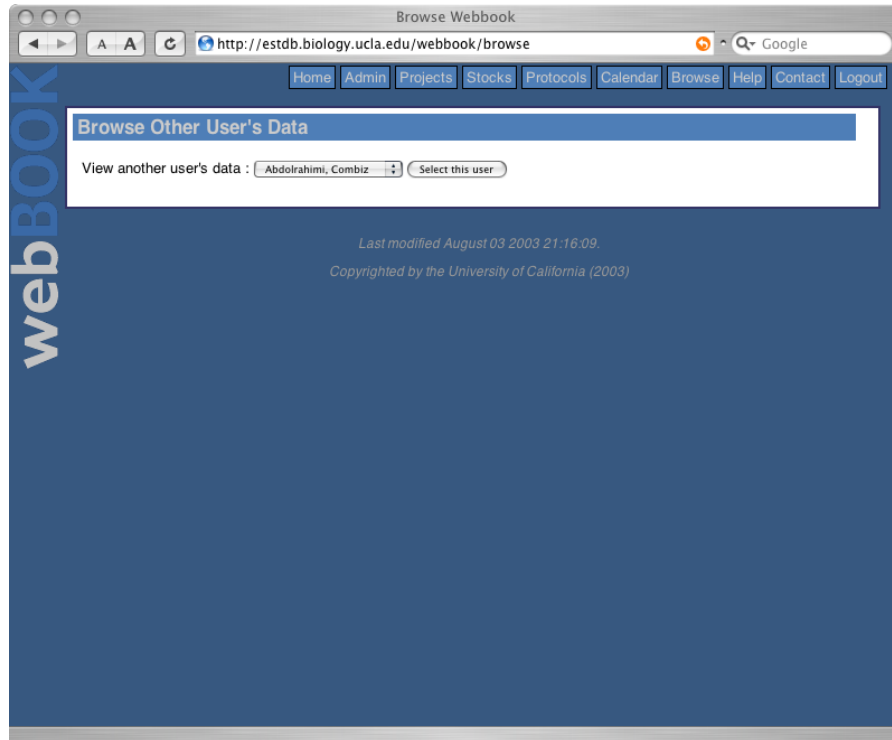
				1	2
3	4	5	6	7	8
10	11	12	13	14	15
17	18	19	20	21	22
24	25	26	27	28	29
30					

Schedule an event

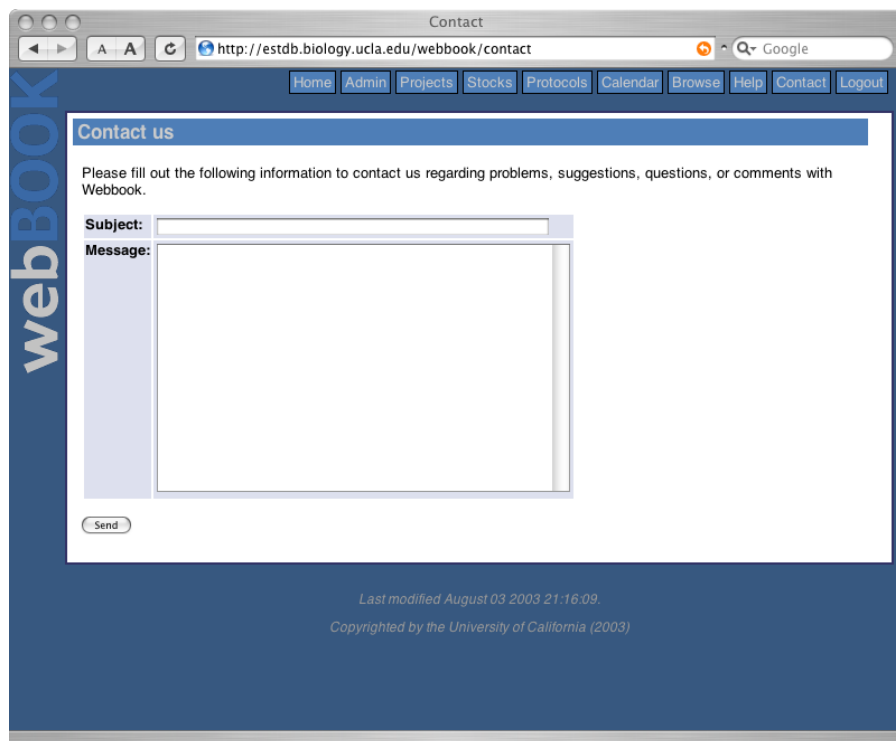
April 4, 2005 2 pm :00

Enter description of event below:

Browsing Work from Lab Members



Help / Problems / Suggestions



Computers / Internet Access

Two macbook dedicated for HC70AL

Login Username: hc70al

Password: hc70al

Accessing Images and Data Files

<http://estdb.biology.ucla.edu/hc70al>

Login Username: hc70al

Password: arabidopsis