

# **PowerPoint as a Powerful Tool**

**Tips for Effective Design and  
Increased Interactivity**

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Environmental Management

# Why PowerPoint?

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- To hold interest
- To focus attention
- To guide discussions/overviews
- To tell a story
- To support the message being delivered
- To create a poster for a conference

# **Tip #1 for Oral Presentations**

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Have only the minimum required text on each slide.

# Text on Slide: Too Much

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When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, to assume among the powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the pursuit of Happiness.

That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed.

# Text on Slide: Better

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- We hold these truths to be self-evident
  - that all men are created equal,
  - that they are endowed by their Creator with certain unalienable Rights, that among these are:
    - life,
    - liberty
    - the pursuit of happiness

## **Tip #2**

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Be consistent and sparing in your use of transitions and animations.

# Moving Text

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- When text appears, we don't want the audience to be watching the animation.
- Use the  
    “Appear effect”  
Not  
    “FANCY EFFECTS”

## **Tip #3**

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Be consistent in your choice of bullets, font, and colors.



# **COMPOST QUALITY and FOOD SAFETY CONCERNS**

**A recent survey of 'finished' compost products produced at 30 California commercial facilities**

- **Found large variation in many characteristics**
- **Indicates highly variable feedstocks and process management**

**Poor process management, curing conditions, and cross-contamination of equipment are most common cause**

# Font Sizes

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This is a good title size.  
Verdana 40 point = sans serif.

This is a good subtitle or bullet point size.  
Times 36 point = serif.

This is about as small as you want to  
go for content at 24 points.

This font size is not recommended for content. Verdana 12 point.

# Fonts and Background Colors

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This is a good mix of colors. Readable!

This is a bad mix of colors.  
Low contrast.  
Unreadable!

This is a good mix of colors. Readable!

This is a bad mix of colors. Avoid bright colors on white.  
Unreadable!

## **Tip #4**

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Create graphics (such as tables and charts) appropriately.

# Inappropriate Use of Tables

ID	Task Name	Duration	March				April				May				June				July				August							
			2/24	3/3	3/10	3/17	3/24	3/31	4/7	4/14	4/21	4/28	5/5	5/12	5/19	5/26	6/2	6/9	6/16	6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11			
3	SM3B MISSION	12 days	[Gantt bar from 2/24 to 3/5]																											
2	BRIGHT EARTH AVOIDANCE (BEA)	12 days	[Gantt bar from 3/5 to 3/17]																											
1	HST RELEASE	0 days	[Diamond at 3/9]																											
41	NCS FILL PROCEDURE	2 hrs	[Diamond at 3/9]																											
40	8967V1 NCS01 START NCS CPL	0.3 days	[Diamond at 3/18]																											
6	NICMOS SAFED	0 days	[Diamond at 3/18]																											
8	8967 NCS01 NCS ACTIVATION & NICMOS COOLDC	0 days	[Diamond at 3/18]																											
14	8945 NICMOS10 - NICMOS COOLDOWN DARKS	8 days	[Red bar from 3/18 to 3/26]																											
42	BEA COMPLETE	0 days	[Diamond at 3/21]																											
5	NICMOS COOLDOWN COMPLETE	0 days	[Diamond at 3/21]																											
7	NICMOS TO OPERATE	0 days	[Diamond at 4/13]																											
12	8945 NICMOS10 - NICMOS COOLDOWN DARKS - P	22 days	[Red bar from 4/13 to 5/4]																											
35	8944 NICMOS01 FW TESTS	10 days	[Blue bar from 4/13 to 4/23]																											
36	8974 NICMOS03 - FLATS & QE	5 days	[Blue bar from 4/23 to 4/28]																											
13	NICMOS TEMP SET POINT ADJUST	7 days	[Red bar from 4/23 to 4/30]																											
39	FILTER WHEELS ENABLED	0 days	[Diamond at 5/2]																											
15	8977 NICMOS06/07 - FINE OPT ALIGN	7 days	[Blue bar from 5/2 to 5/9]																											
37	8973 NICMOS02 FOM OPTICAL OPERATION TEST	1 day	[Red bar at 5/2]																											
10	NICMOS TEMP SET POINT TECH REVIEW	0 days	[Diamond at 5/7]																											
9	NICMOS TEMP SET POINT ESTABLISHED	0 days	[Diamond at 5/8]																											
11	8977 UPLINK ALIGN/TILT PARAMS	0 days	[Diamond at 5/10]																											
18	NICMOS GO SCIENCE ENAB (BASIC MODES)	0 days	[Diamond at 5/10]																											
28	9269 NICMOS18 - THERMAL BACKGROUND	1 day	[Red bar at 5/10]																											
29	9269 NICMOS18 - PARALLEL THERMAL B/G	60 days	[Red bar from 5/10 to 7/10]																											
4	NICMOS EROS	6 days	[Blue bar from 5/10 to 5/16]																											
32	8981 NICMOS10 - APERTURE LOCATIONS	1 day	[Red bar at 5/16]																											
34	8976 NICMOS05 - TRANSFER FUNCTION TEST	1 day	[Red bar at 5/16]																											
23	8988 NICMOS17 - ASTROM'IC PERS'T'ICE MEAS	1 day	[Red bar at 5/16]																											
27	8975 NICMOS04 - DET NOISE, SHADING, & CRS	1 day	[Red bar at 5/16]																											
24	8991 NICMOS20 - GRISM WAVELENGTH CAL	5 days	[Red bar from 5/16 to 5/21]																											
22	8985 NICMOS14 - FLAT FIELDS	1 day	[Red bar at 5/16]																											
25	8986 NICMOS15 - PHOTOMETRY	6 days	[Red bar from 5/16 to 5/22]																											
26	8987 NICMOS16 - CR PERSISTENCE	1 day	[Red bar at 5/16]																											
33	8982 NICMOS11 - PLATE SCALE	1 day	[Red bar at 5/16]																											
16	8980 NICMOS09 - FOCUS MONITOR	1 day	[Red bar at 5/16]																											
20	PRD SIAF, GAIN TABLE, ROT MATRIX UPDATES	1 day	[Blue bar at 5/17]																											
19	8983 NICMOS12 - MODE2 TRG ACQ	1 day	[Blue bar at 5/17]																											
17	8980 NICMOS09B - FOCUS MONITOR	1 day	[Blue bar at 5/17]																											
31	PDB SIAF U/D & PATCHABLE CONSTS (512)	1 day	[Blue bar at 5/17]																											
30	8979 NICMOS08 - COR'GRAPHIC FOCUS	1 day	[Blue bar at 5/17]																											
21	8984 NICMOS13 - CORONOGRAPHIC PERFORMAN	1 day	[Blue bar at 5/17]																											
38	NICMOS C'R'G'PH'IC SCI ENABLED	0 days	[Diamond at 7/13]																											

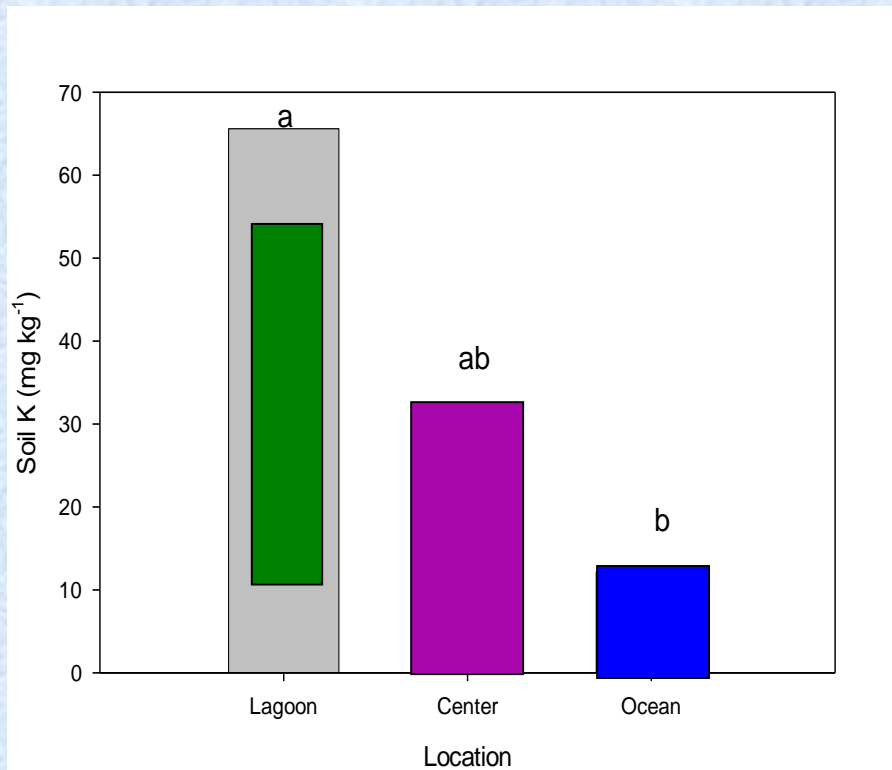
# Appropriate Use of Tables and Figures

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Emphasize key parts so that your points are stronger:

- Animate the graph or table elements
- Use drawing tools to highlight a portion of the table or graph
- Use strong contrasting color for drawing element
- Use callout box drawing tool

# Nutrient concentration tends to decrease from lagoon to ocean side



Nutrient	Location	Concentration	Pr>F
N	Lagoon	0.66	0.27
	Center	0.53	
	Ocean	0.40	
P	Lagoon	15.7	0.20
	Center	15.7	
	Ocean	15.7	
K	Lagoon	65.6	0.08
	Center	32.5	
	Ocean	12.2	
B	Lagoon	0.38	0.19
	Center	0.29	
	Ocean	0.28	

**Very important**

## **Tip #5**

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Remember that white space is our friend.



# Slide Overkill

2. The data suggest that the high-level wells tap interconnected, though bounded, aquifers whose rate of water level decline is inversely proportional to its volume. Future well drilling for high-level potable sources must include accurate, well-designed aquifer tests that will aid in the determination of geologic boundaries to provide information on the geometry of the aquifer.
3. The data suggest that there may be more than geological mechanism that created the high-level aquifer.
4. The data suggest that there is a water level pattern observed in the high-level wells with Keopu being the "drain" for the ground-water flow system. The ground-water flux south of Keopu is to the north, and north of Keopu, the ground-water flow is to the south.
5. Some high-level wells do exhibit quasi-stable water levels, and show little variation over time. Use of long-term water level transducers in these wells should continue in conjunction with long-term water level transducers in those wells that show water level decline. Real time correlation between water levels in the wells with climatic conditions measured at Lanihau Rain Gage will provide better insight into the behavior of the potable high-level aquifers.



# Washout Picture

1. Insert a Picture by choosing **Insert>Picture>From File**
2. Resize it to completely fill the frame
3. Keeping the picture selected, choose **Format>Picture>Image Control**
4. Under **Color**, choose **Washout**

## Tip #6

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Remember that *you* are the show --not the PowerPoint slideshow.

# **What makes the design of a .ppt presentation ineffective?**

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- Slides read word for word (60%)
- Text too small (51%)
- Full sentences used (48%)

Source: Bad PowerPoint Press Release 2003 survey  
[www.communicateusingtechnology.com](http://www.communicateusingtechnology.com)

## **Tip #7**

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Do use some graphics in your slideshow. Nothing is more boring than an all-text slideshow. Choose them carefully, though.

# JPG or JPEG

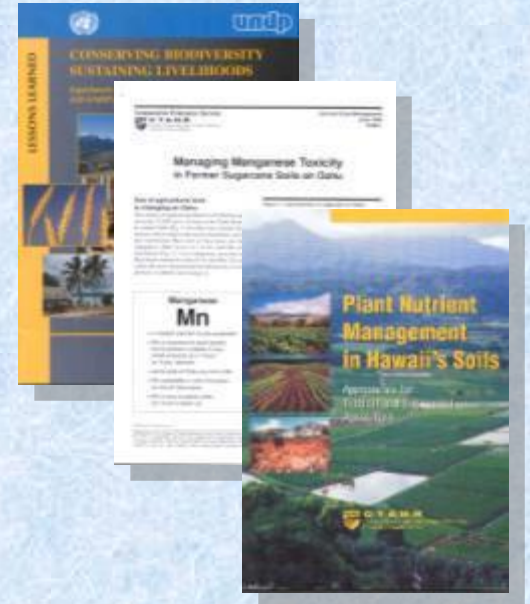
---

- This stands for “Joint Photographic Experts Group”
- This is the best file type to use if your image is a photo or a scan
- This file type allows for a full range of colors in a small file

# Responsibilities of the Specialist



Scholarship



Synthesis



Leadership



# GIF

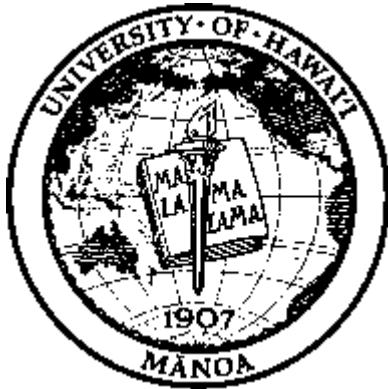
---

- This stands for “Graphical Interface Format”
- This is the best file type to use for logos, line art, or other images with limited colors
- GIF files only store colors that are actually used in the image



# GIF Examples

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# TIF or TIFF

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- This stands for “Tagged Image File Format.”
- This is the best file type to use if you need transparency in the image
- It is the most widely used file format in desktop publishing

# TIFF Example

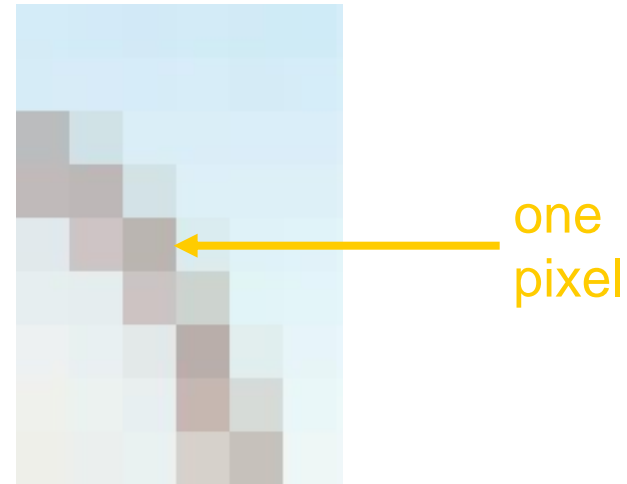


**Golden  
Grahams**



# What About Resolution?

- “Resolution” = number of pixels per inch in a bitmap image
- The more dots per inch (dpi), the higher the resolution
- Higher resolution (“high res”) means a better quality image



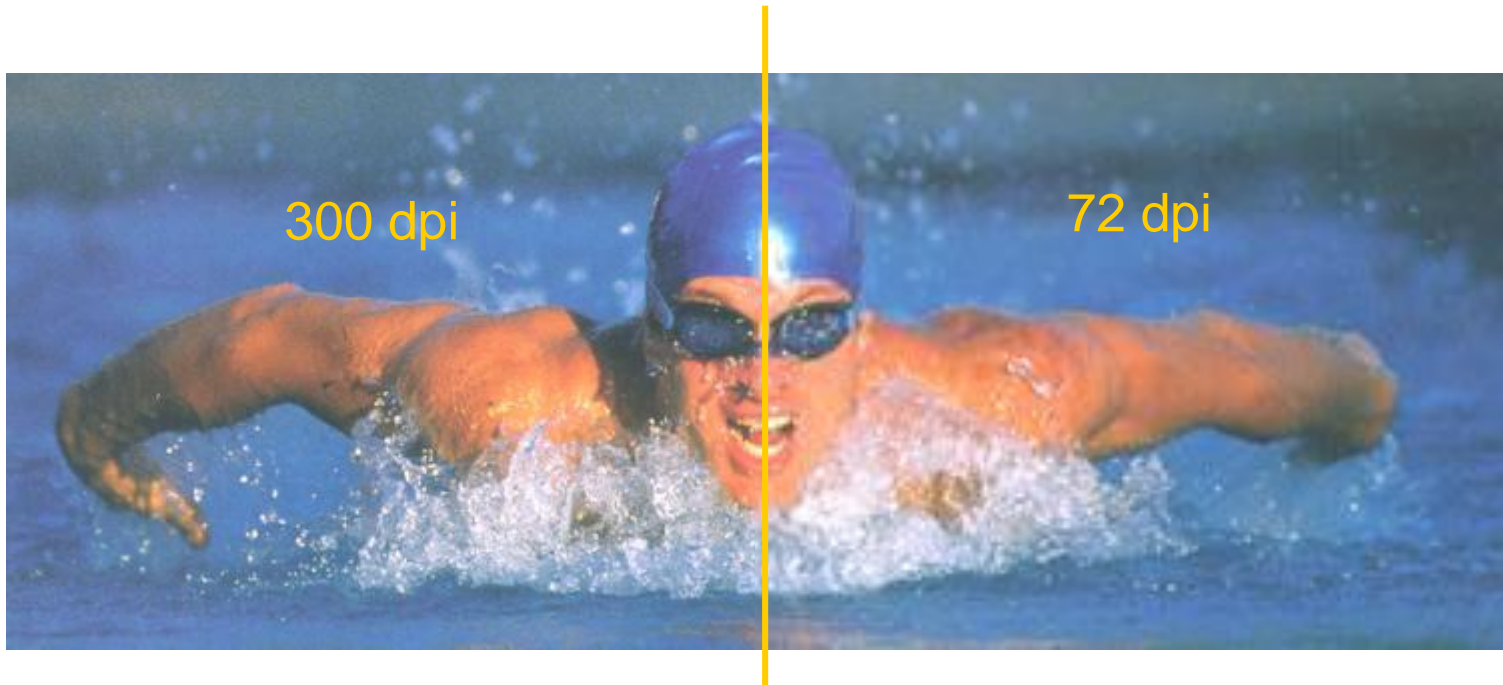
HOWEVER...

PowerPoint only displays at 92 dpi onscreen

# What Resolution Should I Use?

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Can you tell the difference on screen?  
How about if you print it?



# What Resolution Should I Use?

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So what's the difference?



300 dpi

This image is 1.4 MB

72 dpi

This image is 240 K

# Tip #8 On Screen vs. Print

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ON SCREEN 92 dpi

PRINTING 300 dpi

- If showing PowerPoint presentation on screen only, use images at 92 dpi
- If printing PowerPoint presentation, use images at 300 dpi
- High res images look better when printed but make presentation file big
- Never start with a low res image and try to increase it's res. Result will be a fuzzy picture

# Tip#9 Make it Interactive

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- Be able to jump to any slide
- Blank the screen
- Draw on the screen
- Screen Shots



# Screen Shots

The screenshot shows the Netscape browser window displaying the CTAHR website. The browser title is "Welcome to the CTAHR Home Page! - Netscape". The website header includes the CTAHR logo and the text "C/T/A/H/R College of Tropical Agriculture and Human Resources University of Hawai'i at Mānoa". A navigation bar lists categories: Aloha!, publications, clothing industry, environment, foods & nutrition, home horticulture & commercial agriculture, and people & community. A left sidebar contains a vertical menu of site sections: administration, academic & student affairs, extension/outreach, research, about us, ctahr board of advisors, departments and units, counties, international, alumni affairs, for employees, employment opportunities, and ctahr directory. Below the menu are buttons for "click here to find us on the manoa campus", "contact us", and "search". The main content area features a large banner for "Sharing Biotech Tools with Smaller Schools" with a photo of people in a lab and a "more on this story >>" link. To the right of the banner are three sections: "CTAHR CALENDAR" with an event for "Senior Financial Seminar, Saturday, August 27, 9:00-12:00 p.m., Hilo IEG Federal Credit Union (Big Island)", "CTAHR NEWS" with an article about a director's report, and "WHAT'S NEW" with links to "Buy Fresh, Buy Local" posters, nutrition education, and a food show. At the bottom, a "Quick Link" section lists PDF documents. The browser's taskbar at the bottom shows the start button, several open windows, and the system clock at 12:39 PM. A tilted photograph of a hand pointing at a keyboard is overlaid on the right side of the browser window.

# Tip #10 Package for CD

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Package your presentations and all of the supporting files and run them from the CD.

# Tip #1 Poster Presentations

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- Construct the poster to include the title, the author(s), affiliation(s), and a description of the research, highlighting the major elements that are covered in the abstract.

# Using computer simulation software to enhance student learning

Kent D. Kobayashi

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## Introduction



How can the student-learning experience be enhanced using computer simulations?

This paper describes the use of several simulation programs to promote active, hands-on learning in a graduate course on crop modeling.

## Methods

TPSS 601 *Crop Modeling* covers modeling crop growth and development. In the laboratory session, students discuss scientific papers.

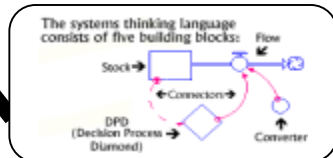
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A=INTGRL(IA,GR)
GR=RGR*A
INCON IA=1.
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```

Example of lines of CSMP language code.

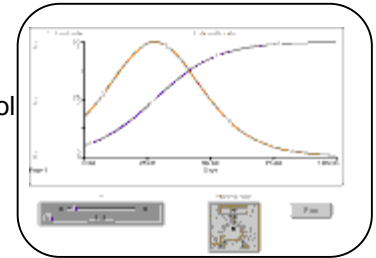
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OPEN "I", #1, PS
INPUT #1, LAT
SM=.45*(24.3 - .264*LAT)
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Example of lines of BASIC language code.



STELLA relational diagram showing variables and their relationships.

STELLA graph showing simulation output. "Slider" and "knob" icons control values of the variable and parameter. "Run" button runs the model.



## Results

- Enhanced understanding of crop physiology and relationship between crop and environment.
- Students had hands-on experience developing their own crop models.
- Enabled exploring "what if" scenarios.

Software	Advantages	Disadvantages
CSMP	<ul style="list-style-type: none"> <li>• Simple coding.</li> <li>• Models already available.</li> </ul>	<ul style="list-style-type: none"> <li>• Crude graphs.</li> <li>• Need to run on mainframe computer.</li> </ul>
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STELLA is being used this fall in my other TPSS courses—"Computer applications, high technology, and robotics in agriculture" and "Plant growth and development."

## Conclusions

Use of computer simulation software in a crop modeling course enabled students to develop crop models, thereby enhancing active learning through hands-on experience.

## Acknowledgements

Support from President's Educational Improvement Fund Grant, University of Hawaii.

## Tip #2

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- Minimize detail and try to use simple, jargon-free statements.

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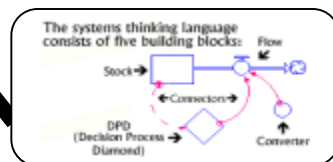
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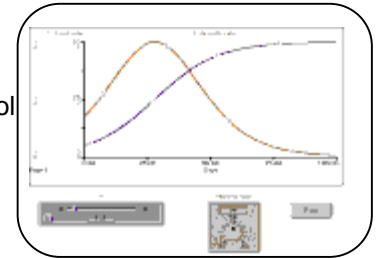
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## Tip #3

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- Remember that pictures, tables, and figures are amenable to poster display

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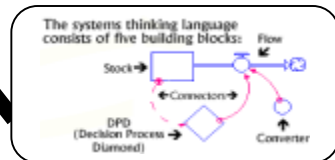
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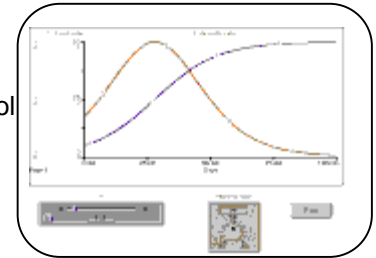
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## Tip #4

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- If you can, use color in your visuals.

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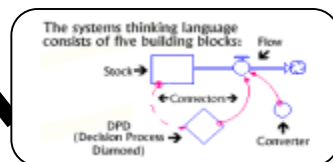
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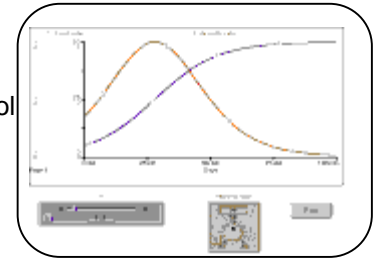
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Support from President's Educational Improvement Fund Grant, University of Hawaii.

## Tip #5

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- Make sure your fonts are consistent and are large enough to be read from a distance, i.e., do not simply pin up a set of typed pages--reserve these for your handout.

## Tip #6

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- Consider using a flow chart or some other method of providing the viewer with a guide to inspecting your display.

# Using computer simulation software to enhance student learning

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## Introduction



How can the student-learning experience be enhanced using computer simulations?

This paper describes the use of several simulation programs to promote active, hands-on learning in a graduate course on crop modeling.

## Methods

TPSS 601 *Crop Modeling* covers modeling crop growth and development. In the laboratory session, students discuss scientific papers.

Software to do crop simulations—**CSMP**, **BASIC**, and **STELLA**—were introduced into the lab session. Using these software, students developed their own crop models for homework and lab assignments, and a term project.

```
A=INTGRL(IA,GR)
GR=RGR*A
INCON IA=1.
PARAMETER RGR=0.1
```

Example of lines of CSMP language code.

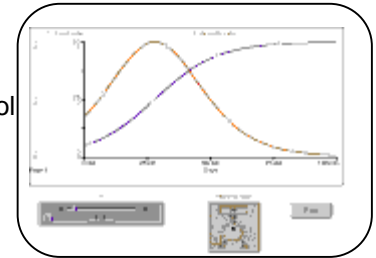
```
OPEN "I", #1, PS
INPUT #1, LAT
SM=.45*(24.3 - .264*LAT)
SD=SM*(.0186*LAT - .12)
```

Example of lines of BASIC language code.



STELLA relational diagram showing variables and their relationships.

STELLA graph showing simulation output. "Slider" and "knob" icons control values of the variable and parameter. "Run" button runs the model.



## Results

- Enhanced understanding of crop physiology and relationship between crop and environment.
- Students had hands-on experience developing their own crop models.
- Enabled exploring "what if" scenarios.

Software	Advantages	Disadvantages
CSMP	<ul style="list-style-type: none"><li>• Simple coding.</li><li>• Models already available.</li></ul>	<ul style="list-style-type: none"><li>• Crude graphs.</li><li>• Need to run on mainframe computer.</li></ul>
BASIC	<ul style="list-style-type: none"><li>• Simple coding.</li><li>• Models already available.</li></ul>	<ul style="list-style-type: none"><li>• Students would have to learn language.</li><li>• Many lines of code needed.</li></ul>
STELLA	<ul style="list-style-type: none"><li>• Graphical icon based.</li><li>• Relational diagram approach.</li></ul>	<ul style="list-style-type: none"><li>• Logistics—only Mac version used.</li><li>• Software is expensive.</li></ul>

STELLA is being used this fall in my other TPSS courses—"Computer applications, high technology, and robotics in agriculture" and "Plant growth and development."

## Conclusions

Use of computer simulation software in a crop modeling course enabled students to develop crop models, thereby enhancing active learning through hands-on experience.

## Acknowledgements

Support from President's Educational Improvement Fund Grant, University of Hawaii.

## Tip #7

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- Don't overwhelm the viewer with excessive amounts of information; rather, construct a poster display that enhances conversation.

# Final Word

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“The purpose of using visual aids is to enhance your presentation, not upstage it.”

Lenny Laskowski  
[PowerPointers.com](http://PowerPointers.com)