

Software Update

California State University • Fresno

SPACE PRO™

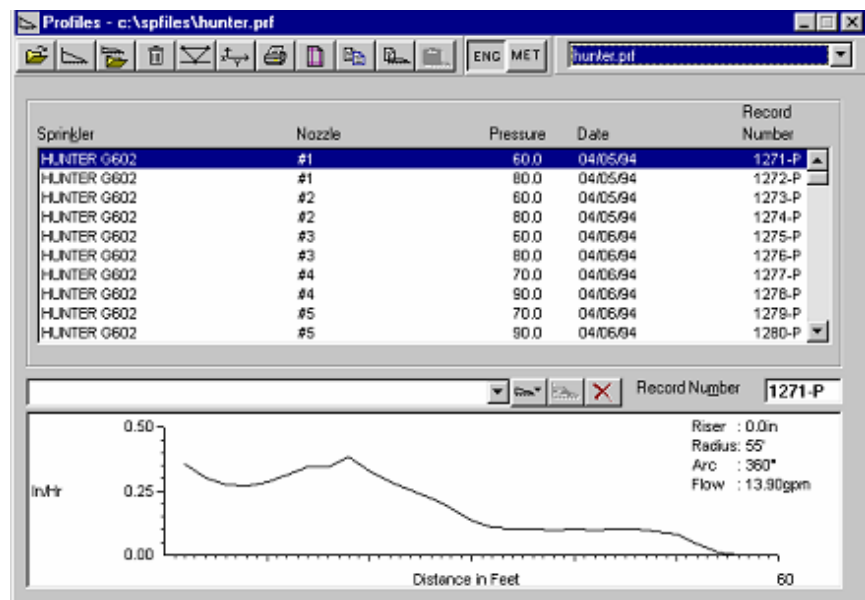
By Joe C. Oliphant¹

SPACE Pro™ (Sprinkler Profile And Coverage Evaluation) is a powerful analytical tool giving irrigation designers the ability to evaluate and compare sprinkler designs. SPACE Pro™ allows designers to place sprinkler heads in almost any configuration and combination; calculate the uniformity and then display the coverage using actual sprinkler test data. Designers can make economic comparisons of different sprinkler layouts to assess the feasibility of upgrading an existing system or choosing a new system.

Space Pro™ Features

- Allows the user to view profiles in English or Metric units with a single click.
- The ability to compare up to four profiles in a single graph.
- Access the application rate at any point along the profile by simply pointing and clicking.
- Profile editing by allowing the user to import data and easily enter repeat data from similar tests.

SPACE Pro™ combines all of the features of CIT's popular software programs (SPACE for Windows™, Hyper-SPACE™, and SPACE Irrigation Survey™) into a single integrated package available on CD-ROM for Microsoft Windows 95 and later versions of Microsoft's operating systems for PCs. By combining all of these features, SPACE Pro™ can be used for large turf, commercial, residential and agricultural applications.



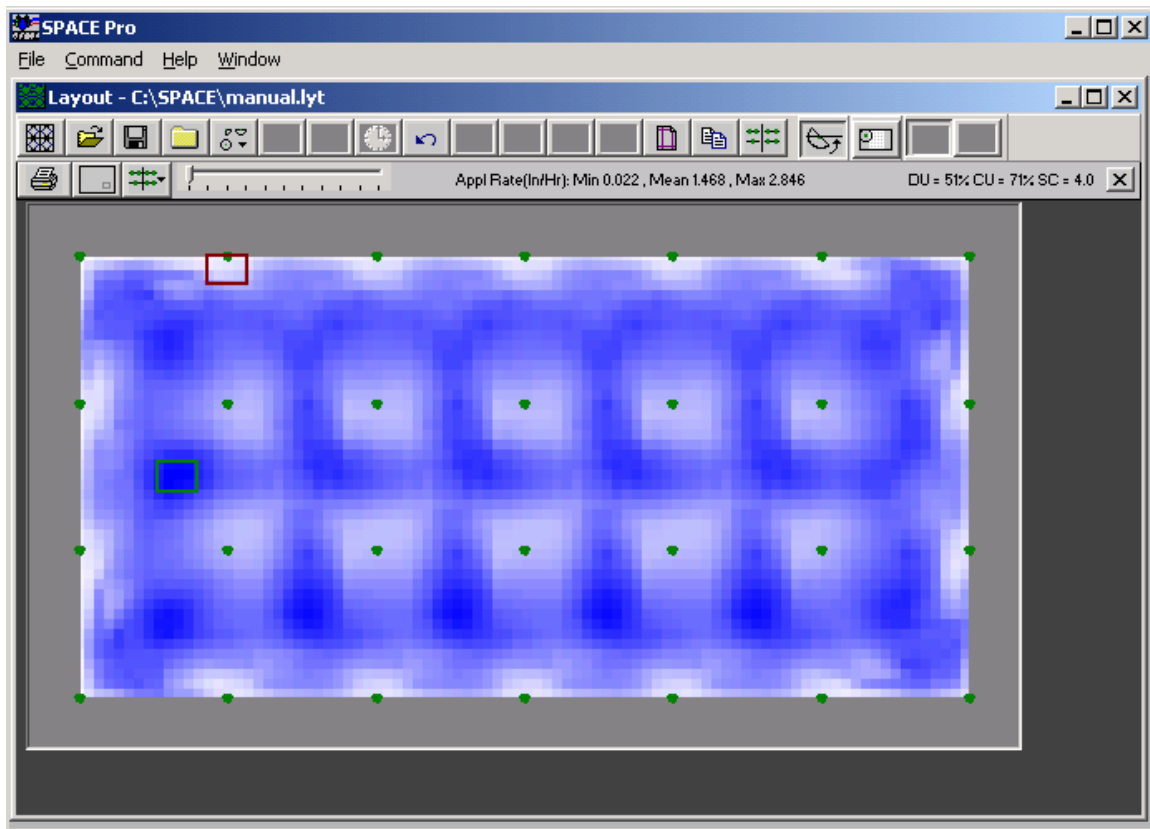
SPACE Pro™ provides many different features to obtain and manage sprinkler data. CIT-tested sprinkler data and data provided by manufacturers from their testing are available on the CIT web site. Sprinkler data is updated periodically. SPACE Pro™ can automatically download the sprinkler data and store it on your local drive. There are several features that allow you to create and customize your own files from CIT data, data provided by manufacturers, or from your own testing.

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Wide Range of Layout Options

Do you need to analyze a small popup spray system? Or perhaps a baseball infield or some other oddly-shaped area? Perhaps you have a park-strip with part-circle sprinklers along the edges and a single row down the middle.

The layout option lets you place any combination of popups and rotors in any configuration. Analyze entire plans or just small sections of larger areas.



Layouts can be saved as templates and modified for different uses. Handy popups tell you what sprinkler is currently placed in any head position. And, like the densograms for fixed spacings, the application rate is displayed as you move the pointer over the covered area.

Editing tools let you block out areas of non-coverage such as sidewalks or driveways. Other tools let you modify and orient variable-arc sprinklers, add entire rows of sprinklers, easily change single heads or entire classes of heads, and adjust run-times for different stations.

The Scheduling Coefficient (SC) can be calculated for any size window area you choose and both the driest and wettest areas are displayed.

Printouts of the layout or of the densogram can be generated and the printouts identify each head position by sprinkler manufacturer, model, arc, and pressure.

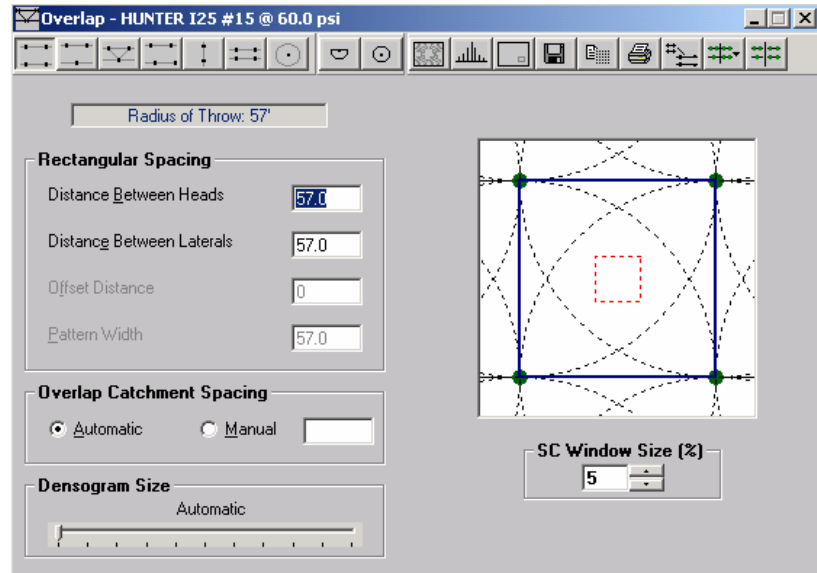
Multiple Overlap Options

SPACE Pro™ can perform rectangular, triangular, equilateral, offset, single- and double-row overlaps.

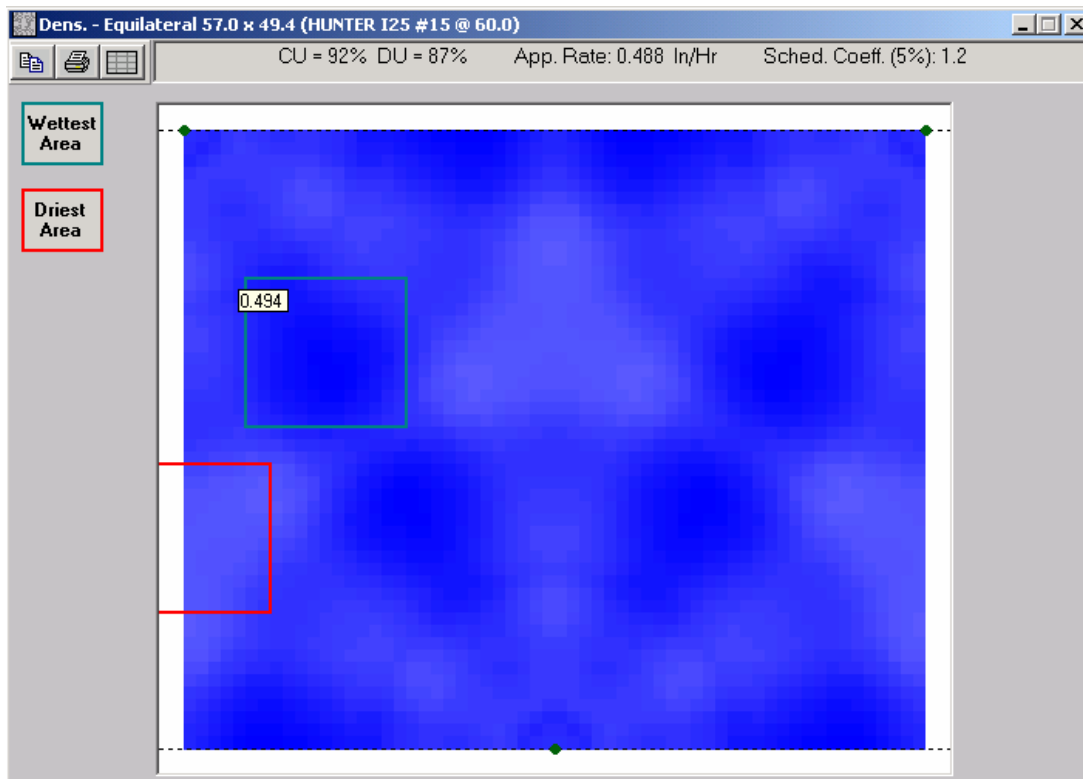
Options are available to control the size and resolution of the overlap grid and to control the size of the window used for calculating the Scheduling Coefficient.

Any overlap can be added to a list and used to compare various combinations of sprinkler models, pressures, and layouts.

You can also copy the overlap values to the clipboard for export directly into a Microsoft Excel™ spreadsheet or to export into other programs.



SPACE Pro™ can display both the driest and wettest areas in the overlap pattern and will display the application rate for that area by simply pointing to any area on the overlap. There is also an option to display the numerical values on screen.



Economic Analysis Options

SPACE Pro™ makes it easy to determine the feasibility of upgrading an existing irrigation system or choosing an entirely new system.

Any number of overlap spacings, layouts, or pressure and nozzle combinations can be compared to make it easy to determine the economic benefit of upgrading your current irrigation system.

The economic analysis is based on the improvement in the Scheduling Coefficient (SC) of the optional system over the current system. The annual cost is the total cost to run the current system per year. The replacement cost is the cost to make the changes needed to replace the current system with the optional system. The interest rate is based on simple interest.

Current System			
Sprinkler Model	Spacing Configuration	SC	
Overlap - Current Sprinkler Current Nozzle @ 60.0 psi	55.0 x 47.6	1.19 (5%)	
Overlap - Current Sprinkler Optional Nozzle @ 60.0 psi	55.0 x 47.6	1.11 (5%)	

Optional System			
Sprinkler Model	Spacing Configuration	SC	
Overlap - Current Sprinkler Current Nozzle @ 60.0 psi	55.0 x 47.6	1.19 (5%)	
Overlap - Current Sprinkler Optional Nozzle @ 60.0 psi	55.0 x 47.6	1.11 (5%)	

Economics	
Current Cost (Annual)	100000
Replacement Cost	10000
Interest Rate (%)	5
Annual Savings = \$6,723 ROI = 1.6 Years	

Ordering SPACE Pro™

Pricing information and order forms for SPACE Pro™ are available on line at the CIT web site at www.cati.csufresno.edu/cit or by contacting CIT at (559) 278-2066.

Registered users of SPACE for Windows™ and/or Hyper-SPACE™ are eligible for special upgrade pricing. Sorry, credit card orders can not be accepted.

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The Center for Irrigation Technology is one of the four research centers comprising the California Agricultural Technology Institute.