



*Catch can experiment in strawberry drip irrigated field.*

## Distribution Uniformity

- **Purpose** – To characterize, verify and improve the performance of irrigation systems.
- **Justification** – Not all irrigation systems apply water evenly to the field. By testing the uniformity of the system, the program will provide quantitative assessment of the DU, plus recommended ways to improve that DU.

*It is proven that a better DU can lead to better crop yield, fertilizer application, and irrigation efficiency.*

- **Objective** –To assist farmers by evaluating the distribution uniformity of their irrigation system.



### Resource Conservation District of Monterey County

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The Resource Conservation District (RCD) of Monterey County and the USDA Natural Resources Conservation Service can advise farmers and ranchers on alternatives for irrigation and nutrient runoff management and soil erosion control.

The RCD maintains records of how many evaluations are performed, the general location of the field, and the average distribution uniformity for each type of irrigation.

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## Irrigation Evaluation



Have your irrigation system evaluated for **Distribution Uniformity**.

Call to schedule an Irrigation Evaluation.

## What does DU tell you?

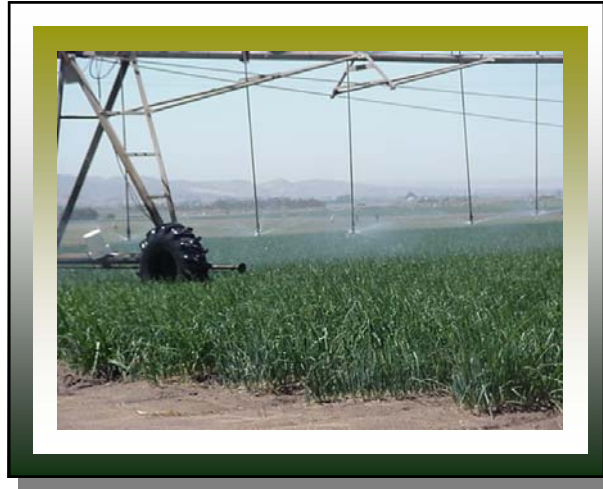


*Sprinkler Irrigation with red catch can buckets strategically placed.*

## What is DU

Distribution Uniformity calculates how evenly water is applied to the field during an irrigation event.

- DU is calculated on a scale from 0 to 1.0; 1.0 being the most uniform.
- The DU number shows how much over watering has to occur to get the driest spot of the field adequately watered.
- The DU is **not** a measurement of efficiency, because it does not deal with beneficial or non-beneficial uses. For example DU does not determine when you should water and it does not determine how mechanically efficient the pump is.

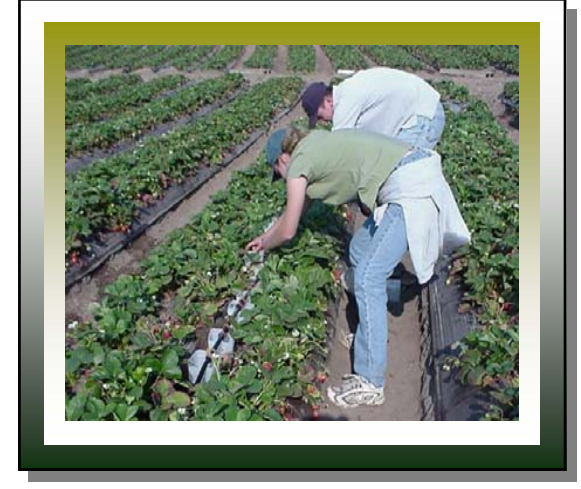


*Linear Move Irrigation*

## How it is Done

**For Sprinkler, Linear Move, and Drip Irrigation, the following is done to measure DU:**

- Measurements are taken during a single irrigation event.
- Pressures are taken through out the field.
- Catch Cans are put out to measure flow rate and/or spray patterns.
- Emitters and nozzles are checked for plugging problems.
- Visual observations about leaks, runoff, soil type, and other system specific problems are made.
- The information gathered is then put into a computer program which statistically calculates DU and the results are given to the farmer.
- Recommendations of how to improve the system are also delivered to the farmer.



*Drip Irrigation*

## Potential DUs

Irrigation Method	DU
Linear move	.92
Orchard Drip	.90
Row Crop Drip	.90
Sloping Furrow	.89
Level Furrow	.87
Hand Move Sprinkler (w/ alternate sets)	.85
Hand Move Sprinkler (w/o alternate sets)	.75

The biggest potential for improvements include decreasing pipe spacing and run length. For sprinklers you should irrigate in non-windy periods and alternate sprinkler locations. Drip irrigators want to avoid furrows greater than 3% slope.