Table 2. Main Crop Rice Water Budgets by Management Practices for 2005.

Field	Field Description	Inflow (ac-in/ac)	Rain (in)	Total (in)	Runoff (ac-in/ac)	Field Use (ac-in/ac)
L1	Zero	16.34	19.00	35.34	15.81	19.53
L2	Zero	27.65	20.88	48.53	16.08	32.45
L3	Graded	15.99	19.77	35.76	17.42	18.34
L4	Graded	14.68	17.78	32.46	14.76	17.70
L5	Unimproved	20.45	19.00	39.45	7.17	32.28
L6	Unimproved	33.31	18.38	51.69	34.15	17.54
G1	Fall Stale Seedbed	25.05	18.38	43.43	27.26	16.17
G2	Conventional Till	46.36	16.38	62.74	35.72	27.02
Mean	Zero	22.00	19.94	41.94	15.95	25.99
Mean	Graded	15.34	18.78	34.11	16.09	18.02
Mean	Unimproved	26.88	18.69	45.57	20.66	24.91

Lakeside District average water usage for main crop: 32.04 ac-in/ac

Garwood District average water usage for main and ratoon crop combined: 67.2 ac-in/ac

Table 3. Ratoon Crop Rice Water Budgets by Management Practices for 2005.

Field	Field Description	Inflow (ac-in/ac)	Rain (in)	Total (in)	Runoff (ac-in/ac)	Field Use (ac-in/ac)
L1	Zero	16.41	3.47	19.88	5.67	14.21
L2	Zero	23.71	5.99	29.70	10.92	18.78
L3	Graded	12.50	2.91	15.41	1.46	13.95
L4	Graded	No Ratoon Crop				
L5	Unimproved	24.11	3.47	27.58	11.82	15.76
L6	Unimproved	No Ratoon Crop				
G1	Fall Stale Seedbed	21.52	8.21	29.73	19.98	9.75
G2	Conventional Till	30.14	7.24	37.38	13.72	23.66
Mean	Zero	20.06	2.91	15.41	8.30	7.12
Mean	Grade	12.50	2.91	15.41	1.46	13.95
Mean	Unimproved	24.11	3.47	27.58	11.82	15.76

Lakeside District average water usage ratoon crop: 17.64 ac-in/ac

Garwood District average water usage for main and ratoon crop combined: 67.2 ac-in/ac

The Use Of Sub-Surface Drip Irrigation For Rice

Presented by James Medley
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Presented by L.T. Wilson
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An experiment is being conducted to determine the feasibility of using subsurface drip irrigation for rice crops. Plots were established at the Texas A&M University Agricultural Research and Extension Center at Beaumont, Texas. In 2001, plots were arranged in two randomized blocks, each consisting of a conventionally flood-irrigated treatment, and two drip-irrigated treatments of 32 and 16-inch tape spacing. Drip irrigation tape was installed at a 6-inch depth. Cadet, which is a short season rice variety, was drill seeded at 80 lbs ac-1 on June 26, 2001. In 2002, two additional blocks were established and the rice variety Cocodrie was

sown on April 5, a much earlier planting date than in 2001. In 2003 another block was added for a total of five randomized blocks. The rice variety Cocodrie was sown on April 3. Each plot consisted of 18 rows spaced at 8 inches and 75 ft in length. In 2006, a large-scale drip study was begun that consisted of four randomized blocks, each with a single sub-surface drip irrigation plot and a conventionally flood-irrigated plot. Plots are approximately 1.15 acres each. Drip tubing used is Netafim Typhoon 636 with emitters spaced at 18 inches. Drip tubing was installed at a 6-inch soil depth and 30-inch row spacing. Cocodrie seed, treated with Release® LC, was drill-seeded onto all plots at 60 lbs ac-1 on March 8, 2006. Analysis of the yield data from 2001 to 2003 showed no significant difference between the drip-irrigated treatments and the flood-irrigated control. An interaction exist for year x treatment because both drip-irrigated treatments (16 and 32-inch spacing) had higher yields in 2001 than the flood-irrigated control, but in 2002 and 2003 that trend was reversed. Yield difference between years was highly significant. Average water use of the drip-irrigated treatments for the three year period was approximately 42% that of the flood-irrigated controls. Water usage for the 16 and 32-inch drip-irrigated treatments differed by less than 0.12 ac ft during the three-year period. Since no significant difference exists for yields or water usage between the 16 and 32-inch treatment, the 2006 large-scale blocks were setup with only one drip-irrigated treatment at 30-inch spacing. In order to combine, and for the purpose of analyses, the data collected from 2001 to 2003, 16 and 32-inch drip-irrigated treatments were considered simply as drip-irrigation. Yield analysis for the four-year period shows a significant interaction of year x treatment. This interaction is due to the drip-irrigated treatment having higher yields in 2001 and 2006 but lower in 2002 and 2003 compared to the flood-irrigated control. Difference between drip and flood-irrigated for yields were not significant. Yields were significantly different between years. Water use of the drip-irrigated treatment in 2006 was approximately 48% of the amount used for the flood-irrigated control, which was very similar to the 2002 and 2003 water usage (55 and 47%, respectively). Water usage in 2001 was only 17% of the amount used for the flood-irrigated control, due to the very short season and the amount of rainfall that year. Water usage for the drip-irrigated plots in 2006 was higher than required due to the fertilization scheme used. Approximately 30 days after planting, fertilizer was applied to the drip-irrigated plots in small amounts through the drip irrigation system three times a week. Due to heavy rains in April and early May there was standing water in the drip-irrigated plots, so only enough water was put through the sub-surface irrigation system to deliver the fertilizer. Observations made in early May showed plants growing directly over the irrigation tape were very green, but those growing between the tapes appeared yellow and stressed. A decision was made in late May to drain the standing water off of the drip-irrigated plots in order to get the fertilizer to spread further from the tape. By late May, a noticeable difference in plant height and color could be seen between plants growing directly over the irrigation tape and those between the tapes. After draining the standing water and increasing the amount of water applied during fertilizer applications, the yellowed or stressed plants began to 'green up'. An application of at least 0.3 inch of water was required to spread the fertilizer to a mid-point between the tapes. Yield sub-samples taken at harvest show a significant difference between the plants growing immediately over the drip irrigation tape, plants growing between the tape and plants in the flood-irrigated plots.

The Interaction Of Variety, Seeding Rate And Nitrogen On Sheath Blight Incidence And Severity

Presented by Dr. Brian Ottis
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Presented by Ralph B. Tanner
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Previous research has determined that optimum rice yields can be achieved at rice seeding rates of 15 to 30 seeds/ft^2 (approx. 30 to 60 lb/A). Lower seeding rates allow plants to produce more reproductive tillers than at higher densities. Our hypothesis for these experiments was