Features

November 2003

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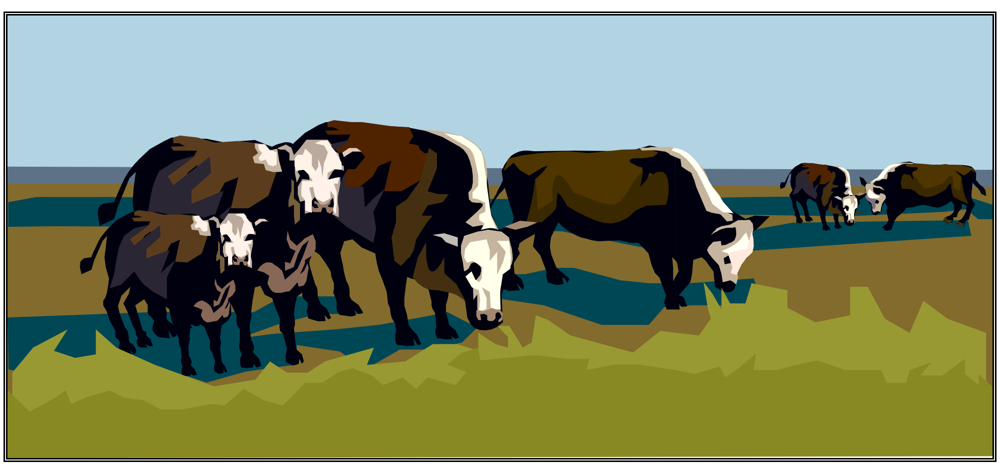
RYEGRASS PASTURE—IT'S TIME

Juan N. Guerrero

It's time to get out the calculator and figure out whether to plant ryegrass. Ryegrass can't compete with vegetables so first of all don't plant ryegrass on your best ground. Ryegrass may be planted from late September to late November as long the summer heat has definitely dissipated. It is advisable that daytime maximum temperatures are consistently less than 100° F and that night temperatures be consistently in the low 60's or less before deciding to plant. Don't depend only on the calendar date to plant. Ryegrass grown in the desert is an annual, so the variety selected doesn't make too much difference, either annual or perennial ryegrass will do. We recommend 40 lb of seed per acre at planting. Given the costs of stand establishment being overly frugal on seeding rate doesn't make sense, a good thick stand in the long run will result in a longer grazing season (more money for the grower) and in good cattle gains (more money for the cattle owner). At planting, we recommend 100 lb of N, but that amount may be reduced depending upon the N carry-over from the previous crop. During the growing season, additional N (250 lb split into 4 applications and water-run) is required for maximum growth. Depending upon when the ryegrass is planted and when the following summer starts, ryegrass may be pastured five or more times during the year. Ryegrass grows best when the soil has plenty of water, do not delay irrigation after grazing or the crop will suffer. As soon as cattle leave a grazed area, irrigate.

From planting to first grazing takes about 60-90 days depending upon the weather and water management, about 80 days is normal. Ryegrass has to be grazed on a rotation. The usual carrying capacity of ryegrass is 3-5 steers per acre for the whole pasture however when the pasture is grazed rotationally, ALL the animals graze smaller subsections (paddocks) of the field, each paddock being about 1/5 of the total pasture, for 7-10 days. Ryegrass needs at least 28 days of regrowth between grazing periods. During the 7-10 grazing period, growers should insist that the watering location be moved at least once so that severe overgrazing and soil compaction problems do not result near the watering areas.

Much is said about "nitrate poisoning" on ryegrass, the potential is real but we have to know the cause so that we might control or at least minimize its effects. When the ryegrass has been fertilized heavily (as it should for maximum growth) and when the days are cold and cloudy, the plants absorbs soil nitrate but are unable to convert the nitrate to protein, so plant tissues accumulate nitrate. When the steer consumes the nitrate-rich ryegrass, the nitrates pass straight into the blood and bind hemoglobin, the steer suffocates and death results. Since climatological factors cause nitrate poisoning, it is very difficult to control. The best you can do is to know the factors that cause nitrate poisoning and when the climatological factors are right, warn the cowboys that are tending the cattle to be extra vigilant.



SEVEN OF THE MOST COSTLY FARMING ERRORS

Keith S. Mayberry

Mistakes in farming are costly. Some kinds of mistakes are far more costly than others. The list below contains a few kinds of miscues that can be avoided if one gives the proper attention.

See a weed, then kill a weed – A farming company that adopts the idea that weeds are the enemy and must be killed whenever and wherever possible will save money in the long run. Weeds that mature produce hundreds of thousands of seed per acre. Some of the seed will germinate for years, causing crop loss and requiring expensive cultural or chemical weed control methods.

Sprinkler malfunctions – One can achieve perfect land preparation, plant the highest quality seed and then blow the crop by using a poorly functioning sprinkler system. Problems can arise from blown out lines where the pipe was installed poorly, damaged sprinkler heads, old worn gaskets, improperly rotating heads, sprinkling in the wind, using too low water pressure, worn nozzles, poorly filtered water causing nozzle plugs, and a myriad of other factors. A good irrigation foreman will check out the system before it is installed and be ready to fix any malfunctions immediately.

Planting on the wrong soil type – Some crops are adapted to heavy soils (silty clay, silty clay loam). These include crops such as cauliflower, broccoli, sugar beets and cabbage. They can make profitable high yielding crops on heavy soils. However, crops such as carrots, onions, and head lettuce often grow very poorly on heavy soils. Yet, many crops are planted on soils that cannot produce a profitable crop. And crops that prefer heavy soils often are hard to grow on sandy soils, as frequent irrigations are needed to keep them supplied with water.

Crops that don't pencil out on paper – Profit is made on a crop when sales value exceeds growing, harvest and sales costs. If one cannot calculate a profit on paper by adding up the cost of all the inputs and then subtracting that value from a reasonable, historic price for the commodity then the crop probably should not be planted. Too often crops are grown without knowing the true cost of production. This speculation that all will be OK at harvest can lead to substantial monetary loss.

Control the important insects and diseases – Not every insect can or needs to be controlled. The same is true for plant diseases. Some pests cause cosmetic damage on plant parts that are not harvested nor eaten such as broccoli and cauliflower leaves. If the problem does not cause economic loss, then it is unimportant. However, many problems can't go overlooked such as aphids in head lettuce at folding stage or worms chewing on the growing point in cauliflower transplants. Diseases such as downy mildew are very destructive on nearly every crop they attack.

Variety and seed selection – Working with a quality seed dealer can save money by allowing the grower to obtain the kind of seed necessary for prime horticultural quality and maximum yield. Using seed with a poor germination potential or seed of an inferior variety will never pay off at harvest time.

Reputation – In the produce business, reputation is everything. Growers with a good reputation for producing high quality, high yielding crops always are in a better position to find out-of-area shippers for partners. Local grower-shippers are becoming a rarity, but those with a good reputation continue to prosper. If a grower starts to farm poor land, use cut-rate seed, fail to use good cultural practices or gouge the shipper partner on growing costs, then his/her reputation rapidly becomes tarnished. Word of mouth spreads fast in the vegetable trade and a bad reputation can spoil potential good joint ventures among grower shippers.

There are a number of other costly errors but they are too long to discuss the details. The short list includes: hiring poorly trained foremen, keeping too many employees, lack of training for employees, poorly accounting for expenses, minimizing theft, dismissing the agitators, failure to plan, failure to follow a good plan, and keeping poor field records.

RESULTS OF LETTUCE DOWNY AND POWDERY MILDEW FUNGICIDE COMPARISONS

Thomas A. Turini

Fungicide efficacy against downy and powdery mildew on lettuce was compared in a study conducted at the University of California Desert Research and Extension Center. On 20 November 2002, 'Coyote' iceberg lettuce was sown in two seed lines per bed and irrigated. Plants were thinned to 12 in. between plants. The experimental design was a randomized complete block with five replications. Each fungicide was applied over 25 feet of two rows. Plots were separated by two untreated planted rows. On 16 February, 2 and 13 March, materials were applied in 30 gallons of water per acre with a CO_2 pressurized backpack sprayer at 30 psi. A 2-nozzle spray boom was used with Teejet 8002 flat fan nozzles spaced 20-inches apart. On 28 March, powdery mildew severity was rated according to the following scale on each of 10 plants per plot: 0 = no powdery mildew observed; 1 = powdery mildew on lower wrapper leaves only; 2 = powdery mildew on upper wrapper leaves; 3 = powdery mildew on cap leaf; 4 = extensive powdery mildew on the entire plant. Disease severity was analyzed with ANOVA. Student-Newman-Keul's Multiple Range Test was used to separate means.

Downy mildew disease pressure was high and few materials held the disease below a level that would have caused economic damage. Maneb 75DF and treatments containing Maneb 75DF and Cabrio EG tank mixed with Acrobat 50WP provided good control (Table 1).

Powdery mildew severity levels were sufficient for treatment differences to be obvious. Under the conditions of this study, Microthiol Special 80W with or without Maneb 75DF, Quitec, BAS 516, Cabrio EC with or without Acrobat 50WP and Flint 50WDG provided excellent control of powdery mildew (Table 1).

Table 1. Fungicide activity against downy and powdery mildew on 'Coyote' iceberg lettuce at Holtville, CA.

Treatment	Downy mildew (lesions/plant)[x]		Powdery mildew (severity rating)[x]	
Untreated…………………………………….......................…...................	67.2	ab[y]	2.9	a
Curzate 60DF 5.0 oz + Maneb 75DF 2.0 lb[z] …...	3.5	d	1.7	bc
Maneb 75DF 2.0 lb ……………………...……	5.7	d	2.5	ab
Curzate 60DF 5.0 oz + Maneb 75DF 1.5 lb …...…...............................…	9.0	d	2.7	a
Maneb 75DF 1.5 lb + Microthiol Special 80W 6 lbs.................................	10.8	d	0.0	d
Cabrio EG 16.0 oz + Acrobat 50 WP 6.4 oz..….......................................…	14.7	d	0.1	d
Quadris 2.08F 15.4 oz………………..	41.2	c	1.0	c
Cabrio EG 16.0 oz……………..…………..…...…...................................…	54.6	b	0.1	d
DPX-KP481 50WG 8.0 oz…………….........…..................................……	65.8	ab	2.3	ab
Microthiol Special 80W 6 lbs…………….......…...................................…	65.8		0.0	d
Curzate 60DF 5.0 oz ....…………………...…	66.8		2.6	a
Quintec (250g/L) 4.0 fl oz…………….......…..................................………	69.9		0.0	d
BAS 516 (1.45 lb)………………………...…..	71.4		0.0	d
Quintec (250g/L) 6.0 fl oz……………...................................…..…......……	77.9	a	0.0	d
Flint 50WDG 1.5 oz…………………..……	77.9	a	0.1	d
DPX-KP481 50WG 12.0 oz……………..…	78.0	a	1.4	c

[w] On 20 March, the number of downy mildew lesions per plant on each of 10 plants per plot were recorded.

[x] On 28 March, powdery mildew severity was rated according to the following scale on each of 10 plants per plot: 0 = no powdery mildew observed; 1 = powdery mildew on lower wrapper leaves only; 2 = powdery mildew on upper wrapper leaves; 3 = powdery mildew on cap leaf; 4 = extensive powdery mildew on the entire plant.

[y] Means within a column followed by the same letter do not differ significantly as determined by Student-Newman-Keul's Multiple Range Test ($P \leq 0.05$).

[z] Materials separated by a "+" were tank mixed.

CARROT INSECT PESTS AND THEIR CONTROL IN THE LOW DESERT REGION OF CALIFORNIA

Eric T. Natwick

California produces approximately 80% of the carrots grown in the United States (CFBF 2000)[1] with year-round production on about 90,000 acres at various geographic locations. The majority of carrots are produced in southern San Joaquin Valley (45%), lower desert region (31%) and coast region (20%). Insecticide use patterns and insect problems vary among the production areas. Most insect infestations are a result of dispersal from adjacent crops such as cotton, alfalfa and melons. However, few insecticide applications are used on carrots.

The lower desert region is the second largest carrot production area with approximately 29,000 acres. In 1999, nearly 85% of the carrot acreage was treated with an insecticide and about 35% was treated with organophosphate insecticides, Diazinon (28.4%) or Malathion (6.0%) (CDPR 1999)[2]. Diazinon is applied early season to control crickets, earwigs, and Palestriped flea beetle and Diazinon and Malathion are applied later in the season for aphid control. Clarified neem oil (Trilogy) is applied early season if whitefly control is needed and later in the season for aphid control.

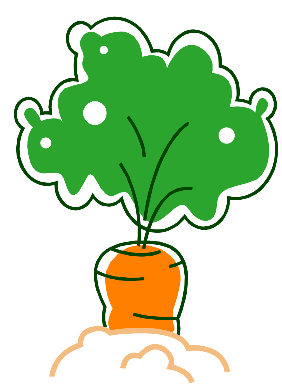
Lower desert carrot fields are occasionally abandoned due to numerous crown and root aphid colonies that reduce mechanical harvesting capabilities. Crown and root aphid control is difficult. It is nearly impossible to penetrate the crop canopy to saturate crowns and roots with insecticides using post-emergence foliar sprays. Sanitation and crop rotation to non-host crops are important cultural controls to reduce the build-up of these aphids. These aphids feed near or below the soil surface and ants attending the aphids discourage the activity of predators and parasites, therefore predators and parasites are ineffective control agents. The green peach aphid is found during the winter and spring in the lower desert. Cotton/melon aphid has rarely been found on carrots in the lower desert since treatments with imidaclorprid (Admire) were implemented for whitefly control on melons.

In the lower desert, high populations of silverleaf whitefly adults migrate to seedling carrot fields during September and October. Whitefly feeding does not reduced carrots stands, but dense populations can delay maturity of the crop. Occasionally, dense colonies of whitefly nymphs can require treatment to prevent honeydew and sooty molds from severely contaminating the carrot tops. Parasitic wasps such as *Encarsia* spp. and *Eretmocerus* spp. are important in whitefly control. Cultural control practices for whitefly include removing weeds that support whitefly adjacent to the carrot fields and encouraging beneficial insect population buildup by avoiding the use of harsh chemicals.

Asana, Baythroid and Lannate are applied to 21.8 %, 15.3 %, and 12.7% of the acreage, respectively. Seedling carrots are treated with Asana, Baythroid or Lannate at stand establishment for control of crickets, earwigs, flea beetles, beet armyworm and granulate cutworm. Larvae of the Palestriped flea beetle *Systena blanda* feed on roots occasionally causing serious damage that is easily confused with cavity spot symptoms.

In lower desert carrots, granulate cutworm is usually a pest near alfalfa fields; occasionally migrating out of the alfalfa fields into carrots consuming young plants or clipping them off at or below ground level. Most feeding activity is nocturnal but they also feeding during the day. No economic thresholds have been established for granulate cutworm. If cutworms are present in substantial numbers in the previous crop, such as alfalfa, carrots should not be planted. Fields should be kept free of weeds that serve as alternate hosts for cutworms.

[1] (CFBF) California Farm Bureau Federation. 2000. California Agricultural Directory 2000 –2001.
[2] (CDPR) California Department of Pesticide Regulation. 1999. Pesticide Use Report Data. www.cdpr.ca.gov/docs/pur/purmain.htm.



CHOOSING WHEAT VARIETIES

Herman Meister and Tom Turini

Imperial Valley farmers report that wheat yields from last year's crop were excellent due to the cool spring, which allowed the crop to develop to its full potential. Some fields produced as high as 4.5 tons per acre with high protein percentages.

Selecting a wheat variety to plant can be a difficult process. Generally, when we look at test results, we key on the variety with the highest production and protein percentages. Other characteristics such as disease resistance, lodging, plant height, susceptibility to shatter, and various milling traits are important, as we shall see.

In reviewing the wheat variety trials conducted at the Desert Research and Education Center by Dr. Jackson, UCD Agronomist, the yields are listed with a number in parenthesis indicating the ranking of the overall comparison of the varieties (Table 1 Normal Irrigation). Commercial and experimental varieties are compared in a single trial. A UCD entry 1375 produced the highest yield with a little over 4 tons per acre in 2003. The next highest yielding commercial varieties in 2003 were Topper, Platinum, Duraking, and Deluxe. Kronos and Orita, two of the most commonly planted varieties in the Valley for the past several years, were 16th and 20th respectively. Based on this information alone, one would be tempted to switch to the newer higher yielding varieties. The reason growers continue to plant Kronos and Orita is because of the desirable milling characteristics of these varieties (color and gluten). In this case and many others, what the market demands is a very important issue. For more details, go the Agronomy web site http://agronomy.ucdavis.edu/agronomy/ Click on "Agronomy Progress Reports" to choose the report of interest. Then choose the tables pertaining to the Imperial Valley data.

Stripe rust caused major yield losses to wheat growers in some areas of the San Joaquin Valley last year. Stripe rust was present in Imperial Valley, but had very low incidence and severity. Leaf rust was a problem is some areas of the Valley and covered up to 50% of the flag leaves by the end of April in some Orita and Kronos fields. The leaf rust infected wheat fields late in the season. According to observations and grower reports, yield reductions were nonexistent to very slight.

Yield reduction is more likely to occur if either rust species attacks the flag leaf at early stages of grain development. This is because flag leaf is responsible for production of high percentage of the total yield. However, it is not likely that there will be appreciable losses if the flag leaf remains healthy into the dough stage.

Qualities, such as yield, protein and milling characteristics are likely to be more important in selecting wheat varieties than resistance to rust. However, if the weather conditions are wet and cool, 59^{o} to 73^{o}F for leaf rust and 50^{o} to 60^{o}F for stripe rust, then the fields should be watched carefully.

If rust is detected before dough stage and weather conditions favor disease development, a fungicide application should be considered. The point of the fungicide would be to protect the flag leaf from infection. Tilt SI (propiconazole) or Quadris (azoxystrobin) are registered for rust control on wheat. Tilt cannot be applied after flag leaf ligule emerges and Quadris cannot be applied within 45 days of harvest.

2003 AND 2001-2003 DURUM YIELD SUMMARY, IMPERIAL VALLEY NORMAL VS LOW IRRIGATION (LBS/ACRE)

		Imperial Valley (Normal Irrigation)			Imperial Valley (Low Irrigation)		
Entry	Name	2003 (1 loc)	2002-2003 (2 loc/yr)	2001-2003 (3 loc/yr)	2003 (1 loc)	2002-2003 (2 loc/yr)	2001-2003 (3 loc/yr)
112	YECORA ROJO (hrs)	6050 (34)	6580 (22)	6930 (16)	6010 (19)	6320 (18)	5880 (15)
819	BRAVADUR	6630 (29)	-	-	5510 (32)	-	-
878	DURAKING	7560 (6)	8040 (1)	8160 (2)	6400 (4)	7300 (1)	6660 (1)
947	KOFA	7010 (22)	7100 (18)	7220 (14)	6370 (5)	7190 (3)	6430 (3)
951	KRONOS	7050 (20)	7260 (14)	7600 (6)	6510 (3)	6940 (7)	6200 (9)
983	RIA	7210 (14)	7550 (8)	7440 (10)	5880 (23)	6470 (14)	5990 (14)
1024	MOHAWK	7100 (18)	7150 (16)	7450 (9)	6590 (2)	6980 (5)	6410 (4)
1103	DELUXE	7560 (7)	7840 (4)	8000 (3)	6300 (7)	7260 (2)	6490 (2)
1166	CROWN	7390 (11)	7680 (5)	7880 (5)	5730 (29)	5980 (22)	5730 (16)
1179	MATT	6500 (31)	6810 (20)	6980 (15)	5750 (28)	6580 (13)	6030 (13)
1210	PLATINUM	7700 (3)	7430 (10)	7590 (8)	6010 (18)	6810 (11)	6280 (7)
1211	TOPPER	7750 (2)	7950 (2)	8180 (1)	6340 (6)	6940 (6)	6400 (5)
1215	ORITA	7150 (16)	7630 (7)	7970 (4)	5780 (26)	6430 (16)	6070 (11)
1250	YU 895-130	6850 (25)	7300 (13)	7590 (7)	6120 (13)	6930 (8)	6230 (8)
1253	CANDURA	6780 (27)	7080 (19)	7360 (12)	5990 (21)	6440 (15)	6030 (12)
1303	WWW D6523	6910 (24)	7200 (15)	7300 (13)	6100 (14)	6800 (12)	6400 (6)
1304	WWW D5384-2	7320 (13)	7350 (12)	7410 (11)	5790 (25)	6430 (17)	6130 (10)
1315	RSI 99WV30413	-	-	-	-	-	-
1317	RSI 98WV13823	-	-	-	-	-	-
1318	RSI 99WV30411	-	-	-	-	-	-
1369	WWW D1138	7010 (23)	7120 (17)	-	5320 (33)	6020 (20)	-
1371	YU 897-44	7380 (12)	7480 (9)	-	6600 (1)	7170 (4)	-
1372	YU 897-60	7100 (17)	7380 (11)	-	5920 (22)	6310 (19)	-
1375	UCD 992050023	8070 (1)	7920 (3)	-	5870 (24)	6000 (21)	-
1376	APB D99OD-213	7490 (9)	7650 (6)	-	6170 (12)	6910 (9)	-
1380	APB D99-224	6580 (30)	6790 (21)	-	6000 (20)	6850 (10)	-
1401	IRIDE	6810 (26)	-	-	6270 (8)	-	-
1402	MERIDIANO	7520 (8)	-	-	6220 (10)	-	-
1403	IONIO	4960 (35)	-	-	4570 (35)	-	-
1404	LIBECCIO	6470 (32)	-	-	5120 (34)	-	-
1405	GD 007	6710 (28)	-	-	5520 (31)	-	-
1406	UCD 022040010	7570 (5)	-	-	6060 (15)	-	-
1407	UCD 022040012	7450 (10)	-	-	6050 (17)	-	-
1408	UCD 022040019	7690 (4)	-	-	6190 (11)	-	-
1409	APB D99OD-394	6180 (33)	-	-	5750 (27)	-	-
1410	WWW DO1930	7020 (21)	-	-	6240 (9)	-	-
1411	WWW D2515	7180 (15)	-	-	5640 (30)	-	-
1412	WWW D4079	7090 (19)	-	-	6060 (16)	-	-
	MEAN	7050	7380	7570	5960	6680	6210
	CV	5.6	5.2	4.6	6.7	9.9	9.9
	LSD (.05)	560	380	280	560	650	490

Numbers in parentheses indicate relative rank in column.

Normal Irrigation: 2001: At planting + 5 irrigations; 2002: At planting + 4 irrigations; 2003: At planting + 4 irrigations

Low Irrigation: 2001: At planting + 2 irrigations; 2002: At planting + 2 irrigations; 2003: At planting + 2 irrigations

EFFECT OF REDUCED IRRIGATION ON WHEAT YIELDS

Herman Meister

The wheat variety trial conducted at the UC Desert Research Extension Center in 2003 by Dr. Lee Jacskon, UCD Agronomist, was grown under a normal irrigation regime of 5 irrigations (germination plus 4 irrigations) and a reduced irrigation regime of 3 irrigations (germination plus 2 irrigations).

Khaled Bali, Irrigation/Water Management Farm Advisor, measured irrigation water amounts entering and leaving the field. Water use for the normal irrigation and reduced irrigation was 25 and 19 inches respectively. The 6 inches of water saved amounted to a 25% saving. The average water use efficiency (tons/acre ft. of applied water plus rainfall of 1.49 inches) for 38 average was 1.60 and 1.76 for the normal and reduced irrigation regimes respectively. Water use efficiency was 10% greater for the reduced irrigation regime.

The average yield of all the varieties in the trial for the normal irrigation was 7050 lbs. and 5960 lbs. Per acre for the reduced irrigation regime. This resulted in about an 1100 lb. Reduction that equates to $88/Acre on an $8 per cwt basis. Allowing for water savings, irrigation labor savings, and harvesting costs, on average, about $70 per acre was lost due to the reduced irrigation frequency.

SURFACE IRRIGATION SYSTEMS EFFICIENCY MEASURES

Khaled M. Bali

The main objective of evaluating any irrigation system is to identify management practices that can be implemented to improve water use efficiency. Evaluating the performance of a surface irrigation system is often tedious and time consuming. Irrigation efficiency can be evaluated by several performance measures such as application efficiency (AE), application uniformity or distribution uniformity (DU), deep percolation ratio (DPR), and runoff ratio (ROR). The formulas that are commonly used to evaluate the efficiency of an irrigation system are defined below:

Water-Conveyance Efficiency (Ec)

Ec= 100*Wd/Wi

where Wd is water delivered by a distribution system and Wi is water introduced into the distribution system. Example of water losses: seepage and evaporation.

Application Efficiency (AE)

AE=(Average volume (or depth) of water added to the root zone)/(Average volume (or depth) of applied water)

Uniformity Coefficient (UC)

UC= 1- y/d

where y is the average of the absolute values of the deviations in depth of water stored and d is the average depth of water stored in soil.

Distribution Uniformity (DU)

DU=(Average volume (or depth) of water stored in the lowest quarter of the field)/(Average volume (or depth) stored in soil profile)

Deep Percolation Ratio (DPR) and Runoff Ratio (ROR)

DPR=(Volume (or depth) of deep percolation)/(Volume (or depth) of applied water)

ROR=(Volume (or depth) of runoff)/(Volume (or depth) of applied water)

AE+DPR+ROR=100%

Irrigation Water Requirements (IR)

IR= Crop ET/AE

<u>Example 1:</u>
If an average of 5 inches of water were applied to a field and if we assume 4 inches of water were stored in the root zone (based on crop water requirements for that period), any amount of water in excess of 4 inches is lost to deep percolation.

AE = 4/5 = 80%

Note that the summation of AE, DPR, ROR is always 100%, so if we can determine the volume (depth) of runoff water, we can estimate deep percolation ratio.

In surface irrigation systems, an AE of 70% or more is considered good application efficiency and a DU of 80% or more is also considered good distribution uniformity. DU can be improved by increasing the run time or the advance rate. However, this increase in run time or advance rate reduces AE due to the increased volume of runoff. The use of tailwater recovery systems dramatically improves both DU and AE.

COOPERATIVE EXTENSION
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MEETING NOTICE

14 Annual Desert Crops Workshop
December 3, 2003
8:00 A.M. – 3:00 P.M.

Location: **Barbara Worth Golf Resort and Convention Center**
2050 Country Club Drive, Holtville

	Topics
8:00	**Introduction**
8:10	**Onion disease management** - Thomas Turini - University of California Cooperative Extension, Imperial Co.
8:30	**Pre-Harvest Factors that Affect Quality of Melons -** Dr. Jorge Fonseca - University of Arizona, Yuma
8:50	**Aphid and thrips management in desert lettuce -** Dr. John Palumbo - University of Arizona, Yuma
9:10	**Sweet corn production in the low desert -** Jose Aguiar - University of California Cooperative Extension, Riverside Co.
9:30	**Melon varietal susceptibility to powdery mildew** - Dr. James McCreight -USDA Agricultural Research Service, Salinas, CA
9:50	**Use of plant growth regulators in melons** - Michael Rethwisch - University of California Cooperative Extension, Riverside Co.
10:10	**Break – View posters -**
10:40	**Solarization and use of composts in vegetable crops -** Dr. Mohammed Zerkoune - University of Arizona, Yuma
11:00	**Recent work on Fusarium wilt of lettuce -** Dr. Michael Matheron - University of Arizona, Yuma
11:20	**Nutrient management in vegetable crops -** Dr. Thomas Thompson - University of Arizona
11:40	**Sclerotinia control in lettuce** - Dr. Barry Prior - University of Arizona, Tucson
12:00	**Lunch – view posters**
1:00	**Cyst nematode on cole crops** - Dr. Rebecca Westerdahl - University of California, Davis
1:20	**Cole crop insect management** - Eric Natwick - University of California Cooperative Extension, Imperial Co.
1:40	**Phytophthora disease management in citrus** - Dr. Peggy Mauk - University of California Cooperative Extension, Riverside Co.
2:00	**Recent work in citrus entomology** - Dr. David Kerns - University of Arizona, Yuma
2:20	**Weed Control in lemons** - Bill McCloskey - University of Arizona, Tucson
2:40	**New citrus varieties and rootstocks** - Dr. Glenn Wright - University of Arizona, Yuma
3:00	**Adjourn**

California and Arizona continuing education credits were applied for.

Thomas Turini

Other organizers: Harry Cline (Western Farm Press), Mohammed Zerkoune, Kai Umeda, Michael Rethwisch, John Palumbo, Glenn Wright, Keith Mayberry, Jose Aguiar, Jorge Fonseca and Pat Clay

Please notify Thomas Turini at the Imperial County Cooperative Extension office, if you require special arrangements.

CO-OPERATIVE EXTENSION WORK IN AGRICULTURE & HOME ECONOMICS, US DEPARTMENT OF AGRICULTURE & UNIVERSITY OF CALIFORNIA CO-OPERATING

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CIMIS REPORT

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California Irrigation Management Information System (CIMIS) is a statewide network operated by California Department of Water Resources. Estimates of the daily reference evapotranspiration (ET_o) for the period of November 1 to January 31 for three locations in the Imperial County are presented in Table 1. ET of a particular crop can be estimated by multiplying ET_o by crop coefficients. For more information about ET and crop coefficients, contact the UC Imperial County Cooperative Extension Office (352-9474) or the IID, Irrigation Management Unit (339-9082).

The Irrigation Management Unit (IID) provides farmers with a weekly CIMIS update. Farmers interested in receiving the updated CIMIS report on a weekly basis can call the IID at the above number. Please feel free to call us if you need additional weather information, or check the latest weather data on the worldwide web (visit http://tmdl.ucdavis.edu and click on the CIMIS link).

Table 1. Estimates of daily Evapotranspiration (ET_o) in inches per day

Station	November		December		January	
	1-15	16-30	1-15	15-31	1-15	16-31
Calipatria	0.14	0.10	0.07	0.07	0.08	0.09
El Centro (Seeley)	0.13	0.09	0.06	0.06	0.08	0.09
Holtville (Meloland)	0.13	0.10	0.06	0.06	0.08	0.09

* Irrigation Management Unit, Imperial Irrigation District.

To simplify our information it is sometimes necessary to use trade names of products or equipment. No endorsement of named products is intended nor is criticism implied of similar products, which are not named

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