AWEP Lettuce Nitrogen Management Program for the Salinas Valley

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What is AWEP?

- **A**gricultural **W**ater **E**nhancement **P**rogram
  - Water Quality and Irrigation Efficiency
  - Locally sponsored
- Sign up at NRCS Field Office in Salinas
- Funding level not known for 2010

Some Project Details

- Does not replace cost share options – adds 2 new ones
- Romaine or Head lettuce dbl crop in Salinas Valley
- Outcome based cost share -
  - N application target
  - Irrigation efficiency target
- Both are cost shared
  - Need to be used together
  - Higher cost share for higher efficiency
- First crop must be planted by May 1
- Plan and Records are required
  - NRCS does not keep the records, but you will need to

More Details

- Must reduce N use by at least 30 Lbs/2 crops
- If you miss the goal the contract can be amended to allow for another year
- Irrigation system improvements are eligible for cost share
  - Flow meters

N Rate Choices

N used for 2 lettuce crops	AWEP (EQIP) Payment $/Ac		
	Regular	LRF	BF & SDF
300 lbs/ac	$30	$54	$45
260 lbs/ac	$40	$72	$60
220 lbs/ac	$50	$90	$75

Minimum 30 Lb reduction from last growing season

LRF = Limited Resource Farmer
BF = Beginning Farmer
SDF = Socially Disadvantaged Farmer

Irrigation Efficiency Choices

Efficiency	AWEP (EQIP) Payment		
	Regular	LRF	BF & SDF
>85%	$1000/block	$1800/block	$1500/block
75-85%	$750/block	$1350/block	$1125/block
65-74%	$500/block	$900/block	$750/block

LRF = Limited Resource Farmer
BF = Beginning Farmer
SDF = Socially Disadvantaged Farmer

Irrigation System Evaluation

Payment Per Block

Activity	AWEP (EQIP) Payment		
	Regular	LRF	BF & SDF
System Evaluation and Follow-up	$1,500	$2,700	$2,250

LRF = Limited Resource Farmer
BF = Beginning Farmer
SDF = Socially Disadvantaged Farmer

A Closer Look at Irrigation

$$\text{Efficiency} = \frac{\text{Crop ET} + \text{“Germ” water} + \text{needed leaching}}{\text{Total Water Applied}}$$

Use CIMIS or UCCE method to estimate Crop ET

For System Evaluation:

UCCE, Cachuma RCD, or Water Quality Coalition Methods are acceptable

Example Cost Share

10 acre block:

- 300 lbs N > $30 x 10 acres = $300
- 75% to 85% Irrigation Efficiency > $750
- Irrigation System Evaluation > $1500

- Total = $2550

Nutrient Management Plan

Nutrient Management Plan

- Map
  - Location, soils, water features, infrastructure
- Application Plan for nutrients
  - Form, amount, timing, method
  - Consider available sources: soil, water, etc
  - In-season soil N monitoring with Quick Test
- Soil test for P and K no older than 3 years
- Nutrient Loss Risk Assessment

Nutrient Budget for Double Crop Head or Romaine Lettuce

NRCS Standard 590

Producer: 2/1/2009

Salinas Lettuce Grower		First Crop			Second Crop		
Field or Fields		1,3			1,3		
Crop		Romaine			Romaine		
Planted area	acres	20			20		
Plant Date		2/3/10			6/15/10		
Yield Goal	Cartons/ac						
Planned N Requirement for Yield Goal	lb N/acre	175			125		
Planned P Requirement for Yield Goal	lb P_2O_5/acre	50			50		
Planned K Requirement for Yield Goal	lb K_2O/acre	100			100		
Nutrients from sources other than fertilizers							
		N	P_2O_5	K_2O	N	P_2O_5	K_2O
Irrigation water N, if applicable	lb /acre						
Mineralization of Soil OM and Previous Crop	lb /acre						
Soil Analysis	lb /acre		30			30	
Other	lb /acre						
Nutrients needed from fertilizer	lb /acre	175	20	0	125	20	0
Nutrients to be applied, by source							
Commercial Fertilizer	lb /acre	175	20			20	
Organic Nutrients	lb /acre						
Other*	lb /acre						
Total nutrients to be applied	lb /acre	175	20	0	0	20	0
Nutrients needed or (excess)	lb /acre	0	0	0	125	0	0

Describe nutrient sources included as "Other". List application methods, brief risk assessment, and other notes:

UC rec for these conditions suggest 300 lbs N/ac for two crops. Apply (fertilizer form), side dress ? units N pre plant and, when indicated by soil nitrate Quick Test, ? applications of ? units each in-season, completed by ?. Soil tests indicate adequate P and K to meet yield goal, though less than 30 units of P is applied as an anti-crustant. Field is located in a designated watershed for nutrient impacts from agriculture. Risk of nutrient runoff from this field is low due to irrigation system type and retention of rainfall runoff onsite. Sediment loss is minimal. Nitrate leaching is being addressed with this practice and improved water management.

EXAMPLE PLAN NARRATIVE

300 lbs N/ac goal for two crops. Crop 1: Apply (fertilizer form),? units N pre plant and, when indicated by soil nitrate Quick Test, ? applications of ? units each in-season, completed by ?. Crop 2: Apply (fertilizer form),? units N pre plant and, when indicated by soil nitrate Quick Test, ? applications of ? units each in-season, completed by ?. Soil tests indicate adequate P and K to meet yield goal. About 30 units of P is applied as an anti-crustant at planting. Field is located in a designated watershed for nutrient impacts from agriculture. Risk of nutrient runoff from this field is low due to irrigation system type and retention of rainfall runoff onsite. Sediment loss is minimal. Nitrate leaching is being addressed with this practice and improved water management.

Record of Fertilizer and Irrigation N Applications

Producer:

Field(s):

	Fertilizer				Irrigation			Nutrients Applied			**2/19/2010**
Date	Amount Applied lbs/ac	N %	P_2O_5 %	K_2O %	Water Applied ac-in/ac	Efficiency of N Usage	NO3-N ppm	N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	Comments
3/15/2007	125	32%						40	0	0	
6/1/2007	95	32%						30	0	0	
7/1/2007	95	32%						30	0	0	
All dates					24	20%	15	16	0	0	combined all irrigations
								0	0	0	
								0	0	0	
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Summary of Nutrient Applications and Crop Need

NRCS Practice 590

Producer:				Field(s):
Application amounts as of: 2/19/2010				
Plant Date 1:		Harvest Date 1:		
Plant Date 2:		Harvest Date 2:		

Nutrients

N lbs/ac	P_2O_5 lbs/ac	K_2O lbs/ac	
			Nutrients Applied to date
			Planned Nutrient Requirement
			Planned Nutrient Applications**
			Percent of Planned Nutrients Applied

Actual Yield	Units/ac	
		First Crop
		Second Crop

Nutrient Loss Risk Assessment

The Goal:

Limit sediment loss, runoff, and leaching AND produce crops profitably

P Loss Assessment

High Risk of P Loss =

- High soil P + Potential to go offsite
  - Irrigation and rainfall runoff
  - Soil erosion
  - Tile drains
  - Drainage to affected water body
- Risk reduction information provided when High P + Transport potential exist

N Loss Assessment

- N loss from leaching is addressed by use of these practices
- N loss from runoff is addressed by runoff control where needed


Questions?
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