TECHNICAL NOTES
U.S. DEPARTMENT OF AGRICULTURE BERKELEY, CALIFORNIA SOIL CONSERVATION SERVICE

TN - Plant Materials - 25 January 7, 1964

ADD LANA VETCH TO THREE-POINT PROGRAM [1]

LANA vetch improves the quality and quantity of range forage in California. Its use can provide up to a 47 percent increase in range grazing capacity. It can readily and easily be fitted into the Three-Point Range Improvement Program. In addition, LANA vetch is a reliable source of improved forage in areas and on sites not suited to all parts of the Three-Point Program. Its wildlife and recreational values are exceptional.

The attached Schematic Charts [2] illustrate five different possible combinations in which LANA vetch can be most effectively used. In the first three, Plans A thru C, LANA vetch is used to enhance the Three-Point Program. In the other two, LANA is used to improve the annual range in areas and on sites where the soils and climate are not suited for Hardinggrass.

Plan A. A yearlong operation, involves:

1. Fertilized Hardinggrass.
2. Annuals overseeded with LANA vetch, fertilized.
3. Annuals overseeded with LANA vetch, unfertilized.

Plan B. A yearlong operation, involves:

1. Fertilized Hardinggrass.
2. Annual overseeded with LANA vetch, fertilized.
3. Untreated annuals.

1/ See Technical Note - Plant Materials - 15, April 1, 1959 for details on the Three-Point Range Improvement Program. Both this program and LANA vetch are developments of the Pleasanton Plant Materials Center, which is jointly financed by the Division of Soil Conservation of the California Department of Conservation, and the USDA Soil Conservation Service.

2/ Waldo Frandsen, Washington-Field (West) Range conservationist, assisted in the preparation of the Schematic Grazing Plans.

Plan C. A yearlong operation, involves:

1. Fertilized Hardinggrass.
2. Annuals overseeded with LANA vetch, fertilized.
3. Annuals overseeded with LANA vetch, unfertilized.
4. Untreated annuals.

Plan D. A yearlong operation for areas where the rainfall is 16 inches or over, but the soils and/or climate are unsuited for Hardinggrass, involves:

1. Annuals overseeded with LANA vetch, fertilized.
2. Annuals overseeded with LANA vetch, unfertilized.
3. Untreated annuals.

Plan E. A 7 to 9 months Stocker-Feeder operation for areas where the rainfall is from 10 to 16 inches annually -- too dry for Hardinggrass, involves:

1. Annuals overseeded with LANA vetch, fertilized.
2. Annuals overseeded with LANA vetch, unfertilized.
3. Untreated annuals.

These Schematic Grazing Plans are merely illustrations of how you can apply a range improvement program to most any livestock operation. The chart "Relative Green Pasture Forage Periods at Sunol, " which is also attached, illustrates additional local information you will need. This, together with a completed Feed Requirement and Feed Production Summary Sheet (Form CF-111) for the ranch in question, is all that is needed.

Yield data on the Plans A thru D are average for Claypan sites like those at Sunol where Hardinggrass is adapted. These data are in terms of usable forage (not total herbage yield). They are conservative and can be used without hesitancy.

The yield data in Plan E represents usable forage for areas receiving less than 16 inches of rainfall. They are based on averages from the Temecula Field Evaluation Planting, reduced by about 25 percent to compensate for unusual fluctuations in forage production in drought years. Local yield data should be substituted, where available, in working out plans in your Work Unit.

Yield figures [3] used in Plans A thru D (for areas receiving over 16 inches annual rainfall) are:

2400#/A - Hardinggrass (fertilized).
800#/A - during early period.
1600#/A - during late period.

2500#/A - Hardinggrass (fertilized) when cut for hay after an early grazing. This includes the annuals that are in the hay.

1000#/A - Unfertilized annuals.

2000#/A - Unfertilized annuals seeded to LANA vetch.

4000#/A - Fertilized annuals.

5200#/A - Fertilized annuals when LANA vetch has been seeded.

Yield figures [3] used in Plan E (for areas receiving less than 16 inches annual rainfall) are:

800#/A - Unfertilized annuals.

1600#/A - Unfertilized annuals seeded to LANA vetch.

2800#/A - Fertilized annuals when LANA vetch has been seeded.

Consult your local inter-area Range Specialist for needed assistance.

Prepared by:
Roche Bush,
Range Conservationist
Placerville
and
H. W. Miller
Plant Materials Technician
Pleasanton

---

[3] These data were obtained by clipping and are an average of 4 consecutive years' yields in each case. Clipping was done at hay stage to a 4-inch stubble height. Residue remaining on the surface was adequate to protect against soil erosion and insure a stable plant composition. The air dry forage obtained by this treatment was all considered usable to livestock. Since clipping is a more efficient method of harvesting than grazing, some adjustment downward may be needed in using the yields in developing a ranch plan.

SCHEMATIC GRAZING PLAN "A"

Using

Fertilized Hardinggrass - Annuals plus LANA VETCH Fertilized - Annuals plus LANA VETCH Unfertilized

AC	% OF RANGE	KINDS OF FORAGE	YIELD NO/AC.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
				Hay		Green Pasture Forage						Dry Pasture Forage			
75	24.4	Hardinggrass Fertilized	2400			75 AUM				150 AUM	Cut for hay in alternate years.				
75	24.4	Hardinggrass Fertilized	2400			75 AUM				Cut for hay	Graze in alternate years.				
77	25.1	Annuals and LANA VETCH Fertilized	5200					150 AUM				350 AUM			
80	26.1	Annuals and LANA VETCH Unfertilized	2000						100 AUM						100 AUM
		Hardinggrass Hay		200 AUM											

100 Animal Unit Herd
10 Months Grazing
2 Months Early Winter feeding of Harvested Harding Grass Hay

307 Acres - 4 Pasture
150 Acres - Fertilized Hardinggrass
77 Acres - Fertilized Annuals and LANA VETCH
80 Acres - Annuals and LANA VETCH

PLEASANTON PMC MAY 1963

USDA-SCS-PORTLAND, OREG. 1963

SCHEMATIC GRAZING PLAN "B"

Using

Fertilized Hardinggrass

Annuals plus LANA VETCH Fertilized - Untreated Annuals

AC	% OF RANGE	KINDS OF FORAGE	YIELD NO/AC.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
				Hay		Green Pasture Forage						Dry Pasture Forage			
75	21.1	Hardinggrass Fertilized	2400			75 AUM				Cut for Hay		Graze in alternate years			
75	21.1	Hardinggrass Fertilized	2400			75 AUM				150 AUM		Cut for hay in alternate years			
85	23.9	Annuals with LANA VETCH Fertilized	5200				100 AUM					450 AUM			
120	33.9	Annuals Untreated	1000					150 AUM							
		Hardinggrass Hay	2500	200 AUM											

100 Animal Unit Herd
10 Months Grazing
2 Months Early Winter Feeding of Harvested Hardinggrass Hay

355 Acres - 4 Pastures
150 Acres - Fertilized Hardinggrass
85 Acres - Fertilized Annuals and LANA VETCH
120 Acres - Untreated Annuals

PLEASANTON PMC MAY 1963

USDA-SCS-PORTLAND, OREG. 1963

SCHEMATIC GRAZING PLAN "B"

Using

Fertilized Hordinggrass

Annuals plus LANA VETCH Fertilized - Unfertilized Annuals

AC	% OF RANGE	KINDS OF FORAGE	YIELD NOV/AC	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT
75	21.1	Hordinggrass Fertilized	2800												
75	21.1	Hordinggrass Fertilized	2800												
85	23.9	Annuals with LANA VETCH Fertilized	5200												
120	33.9	Annuals Unfreated	1000												
		Hordinggrass Hay	2500												

100 Animal Unit Herd
10 Months Grazing
2 Months Early Winter Feeding of
Horvested Hordinggrass Hay

355 Acres - 4 Pastures
150 Acres - Fertilized Hordinggrass
85 Acres - Fertilized Annuals and LANA VETCH
120 Acres - Unfreated Annuals

PLEASANTON PMC MAY 1963

SCHEMATIC GRAZING PLAN "C"

Using

Fertilized Hardinggrass - Annuals plus LANA VETCH Fertilized

Annuals plus LANA VETCH Unfertilized - Untreated Annuals

AC	% OF RANGE	KINDS OF FORAGE	YIELD NO/AC.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
				Hay		Green Pasture Forage						Dry Pasture Forage			
75	14.3	Hardinggrass Fertilized	2400			75 AUM				Cut for hay		Graze in alternate years			
75	14.3	Hardinggrass Fertilized	2400			75 AUM				150 AUM		Cut for hay in alternate years			
55	10.5	Annuals with LANA VETCH	5200					75 AUM				275 AUM			
80	15.2	Annuals with LANA VETCH Unfertilized	2000					25 AUM				175 AUM			
240	45.7	Annuals untreated	1000						150 AUM						
		Hardinggrass Hay	2500	200 AUM											

100 Animal Unit Herd
10 Months Grazing
2 Months Early Winter Feeding of Harvested Hardinggrass Hay

525 Acres - 5 Pastures
150 Acres - Pastures Hardinggrass
55 Acres - Fertilized Annuals & LANA VETCH
80 Acres - Unfertilized Annual LANA VETCH
240 Acres - Annuals Untreated

PLEASANTON PMC MAY 1963

USDA-SCS PORTLAND. OREG. 1963

SCHEMATIC GRAZING PLAN "C"

Using

Assumed Pasture Conditions - Annual Rainfall

Annual Herbage Production - Alfalfa/Grass - Alfalfa Yield

250 Acres - Dryland

25 Acres - 5 Pastures

150 Acres - Irrigated

Beginning Spring - Average Conditions

Assumed Pasture Conditions - Annual Rainfall

Annual Herbage Production - Alfalfa/Grass - Alfalfa Yield

100 Animal Unit Herd

Animal Unit Months Grazing By Herd

Pasture Unit Number

Acres Per Animal Unit

Animal Units Per Pasture

Herd Rotation Days

Pasture Rotation Days

Herd Rotation Days

Pasture Rotation Days

Herd Rotation Days

Pasture Rotation Days

SCHEMATIC GRAZING PLAN "D"

Using

Annuals plus LANA VETCH Fertilized - Annuals plus LANA VETCH Unfertilized - Untreated Annuals

(Areas Receiving Over 16" Rainfall Annually)

AC	% OF RANGE	KINDS OF FORAGE	YIELD NO/AC.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
				Hay			Green Pasture Forage				Dry Pasture Forage				
100	28.5	Annuals & LANA VETCH Fertilized	5200				100 AUM			525	AUM				
50	14.3	Annuals & LANA VETCH Unfertilized	2000					50 AUM						75 AUM	
200	57.2	Annuals Untreated	1000						150 AUM						
		Hay (Purchased) 120 Tons		300 AUM											

100 Animal Unit Herd
9 Months Grazing
3 Months Winter Feeding

350 Acres - 3 Field plus Feeding Area
100 Acres - Fertilized Annuals and Lana Vetch
50 Acres - Unfertilized Annuals and LANA VETCH
200 Acres - Untreated Annuals

PLEASANTON PMC MAY 1963

USDA-SCS-PORTLAND, OREG. 1963

SCHEMATIC GRAZING PLAN "E"

Using

Annuals plus LANA VETCH Fertilized - Annuals plus LANA VETCH Unfertilized - Untreated Annuals

(Areas Receiving Less Than 16" Rainfall Annually)

AC	% OF RANGE	KINDS OF FORAGE	YIELD NO/AC.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.
							Green Pasture Forage				Dry Pasture Forage				
80	21.5	Annuals plus LANA VETCH Fertilized	2800				60 AUM			220 AUM		Cut for Hay in Alternate Years			
80	21.5	Annuals plus LANA VETCH Fertilized	2800				1/			Cut for Hay		Graze Alternate Years			
100	26.4	Annuals plus LANA VETCH Unfertilized	1600					60 AUM			140 AUM				
120	30.6	Annual Range Untreated	800						120 AUM						
		Hay cut from Fertilized Annuals and LANA VETCH 120 tons		280 AUM											

100 Animal Unit Herd (150 to 200 Steers depending on size)
4 Months Green Forage Grazing
2-2 ½ Months High Quality Dry Forage Grazing
2-3 Months on Hay cut on ranch

380 Ac. - 4 Fields plus Feeding Area
160 Ac. - 2 Fields Fertilized Annuals and LANA VETCH
100 Ac. - Unfertilized Annuals and LANA VETCH
120 Ac. - Untreated Annuals

1/ This field might be grazed lightly during this period if needed to eliminate feeding, but the ultimate yield of hay would be reduced. (An alternative)

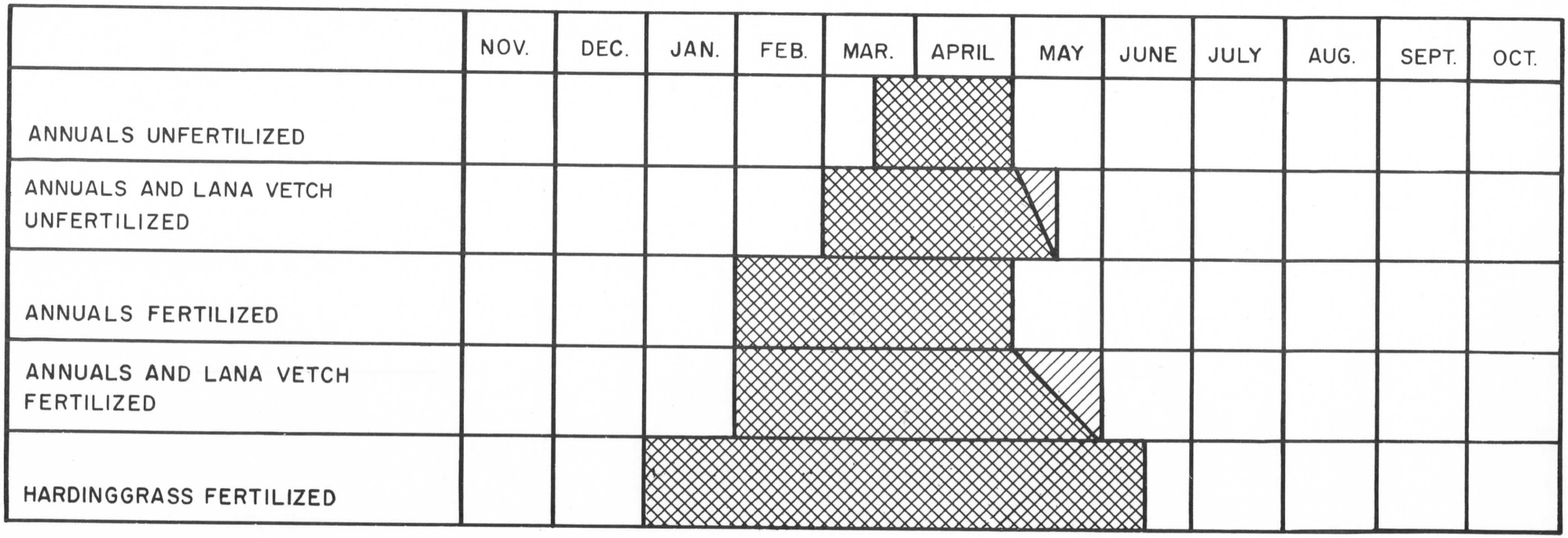
USDA-SCS-PORTLAND, OREG. 1963

PLEASANTON PMC MAY 1963

ILLUSTRATION OF HOW TO PREPARE A LOCAL CHART

By Using

Relative Green Pasture Forage Periods at Sunol



Usable Green Forage

Annuals Dry

LANA VETCH Green

USDA-SCS-PORTLAND, OREG. 1963

ILLUSTRATION OF HOW TO PREPARE A LOCAL CHART

By Using

Relative Great Positions Periods of Sunol

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT
ANNUAL EVENTS										
ANNUAL AND LUNAR EVENTS COMBINED										
ANNUAL AND LUNAR EVENTS EQUALIZED										
HARMONIOUS EQUALIZED										

Double Great Periods

Annual Motion Great Period