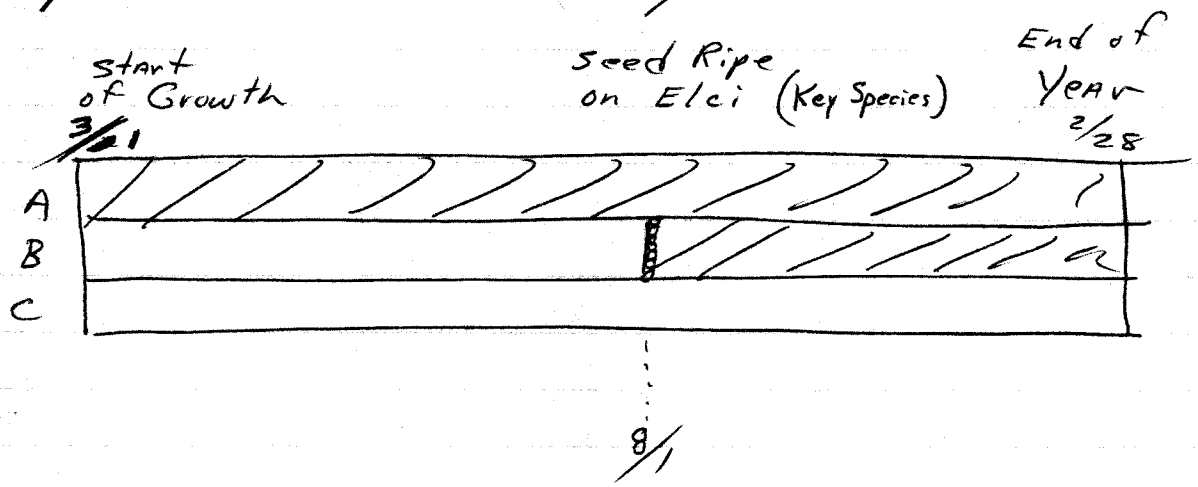
Coleman
Management formula

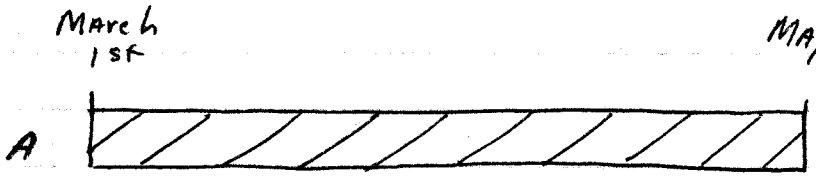
6/1/72
Amajors

COLEMAN AREA

Formula that is possible to use at any time of the year:

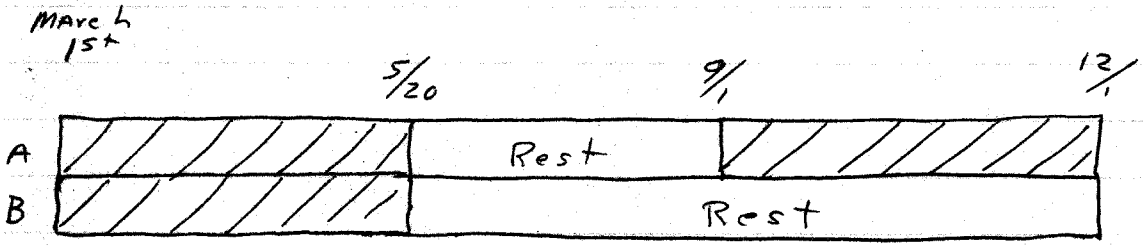


For Season March 1 to May 20th



Key species changed to Agcr and regrowth will adequately restore vigor, allow seed production, and litter Acumulation, but not trampling of seed will occur on any species. Using ~~A~~ this area during this period of time will result in ~~Less~~ very little use on any other species that do not have simular regrowth characteristics.

For Season 3/1 to 5/20 and possibly some fall use 9/1 to 12/1!



Key Species Elci
Seed Ripe 8/1, however, probable some ~~seed~~ Elci seed will be left for trampling at beginning of Sept. Use - may be possible to begin fall use earlier to acquire ~~better~~ more trampling of Elci seed.

1. Area Sprayed Spring of 1963
2. Seeded Oct. 23 thru March 30 - 1963-64
   @ 5.4 lbs./acre
3. 1300 A. seeded
   300 A. sprayed
   2400 A. native
   4000 A. total

LK 4412-2
(2/68)
(AK)

OFFICIAL RECORD OF ACTUAL LIVESTOCK USE

Bureau of Land Management
Lakeview Grazing District

Unit: South Warner Operator: O'Keeffe Allotment: Sandy Seeding

Year	Pasture	Actual Use by Months in AUM's									Estimated Degree of Use
		Jan.-March	April	May	June	July	Aug.	Sept.	Oct.-Dec.	Total	
1966	Sandy Seeding									399	Moderate
1967	" "									465	Moderate
1968	" "				←	Rest				265	Light
1969	" Use made by MC " Ranch				4/9 to	5/18				550	Mod.-Heavy South Light North
1970	MC & Cahill				4/5 to	5/17				921	Heavy South Mod. North
1971	MC Ranch				4/6 to	5/19				717	" "
1972	MC & Lane				3/29 To	5/15				951	Heavy but many wolf plants left dry in April & May

Year:

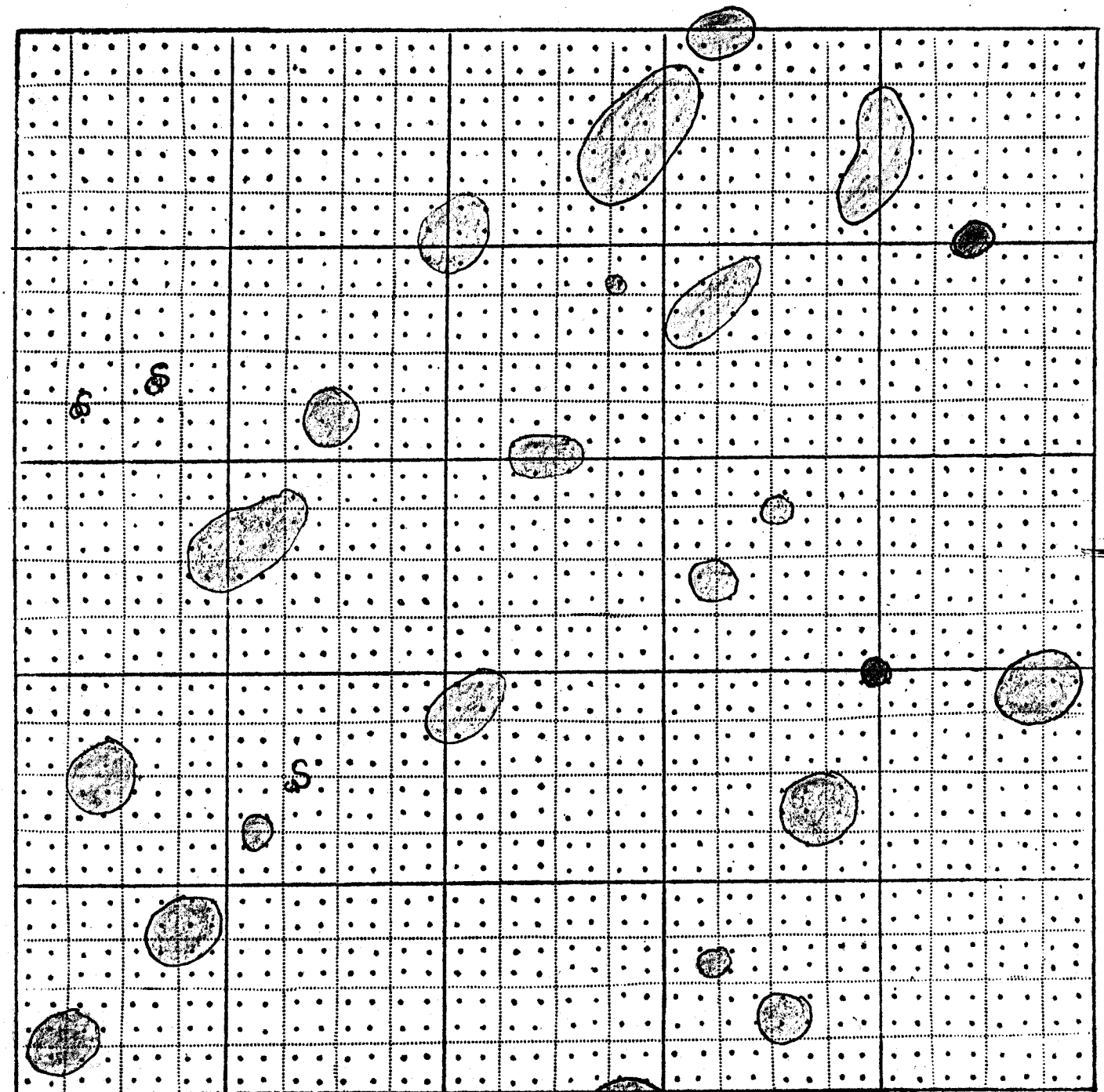
Remarks: Seven year average use = 60%
Estimate 90% of use comes
from seeded area or = 2.4 a
1972 use on seeded area = 1.5 A./

Bureau of Land Management
Lakeview District

Attachment to Form 4412-19

Photo Trend Plot # 407

Date 1970



Grass Density = 6.75 %

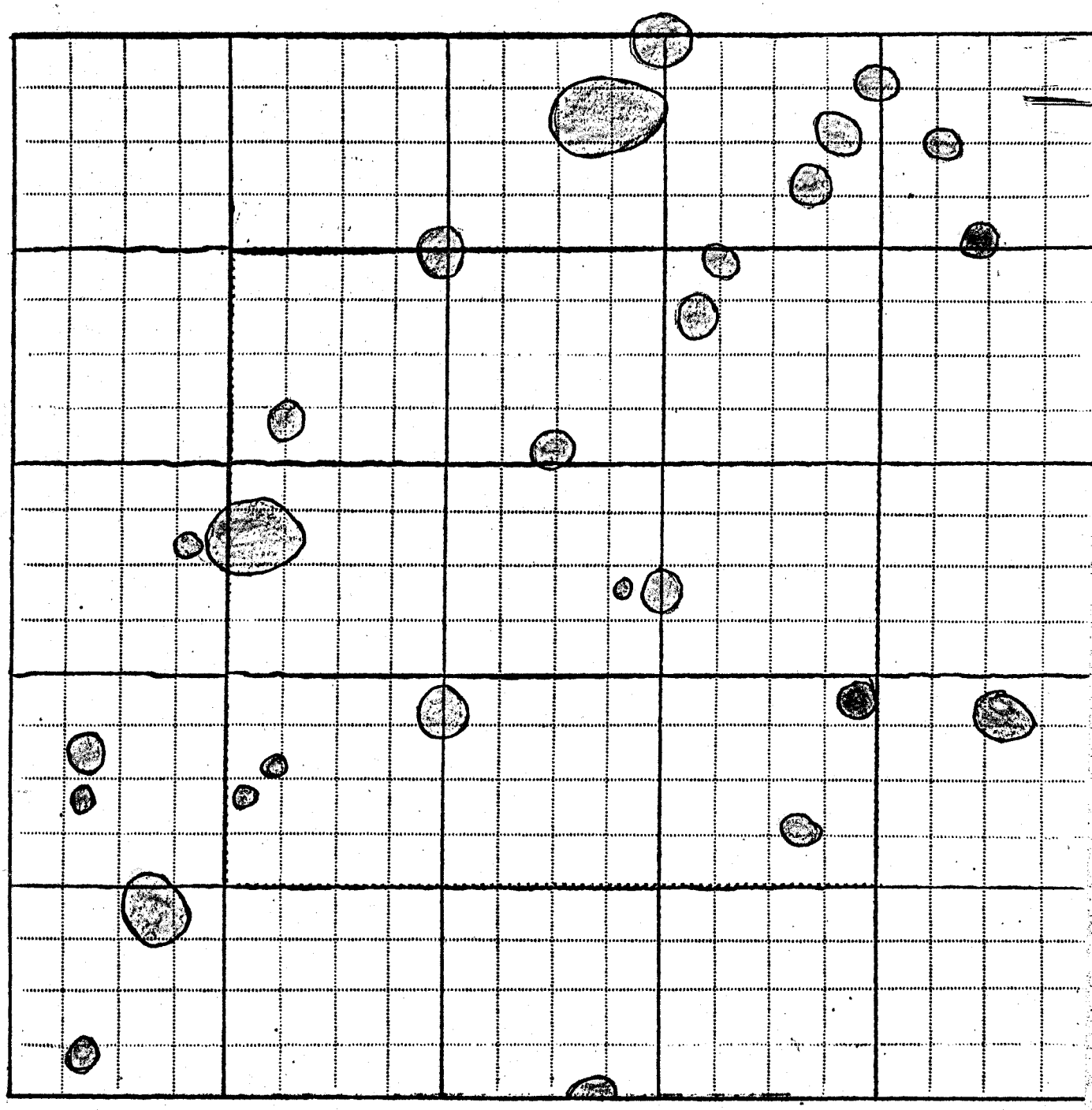
Attachment to Form [illegible]-19

BUREAU OF LAND MANAGEMENT
Lakeview District

Date 1966

Plot Identification 407

Recorder Markgraf

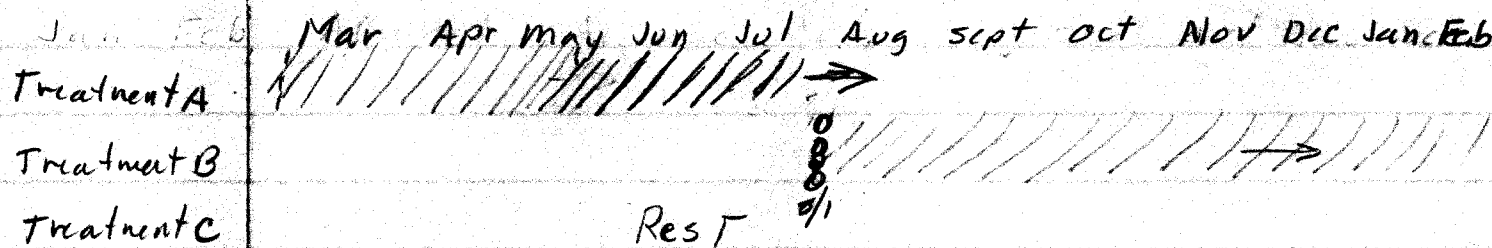


Grass Density = 4.25%

William Miller
Lakeview Session

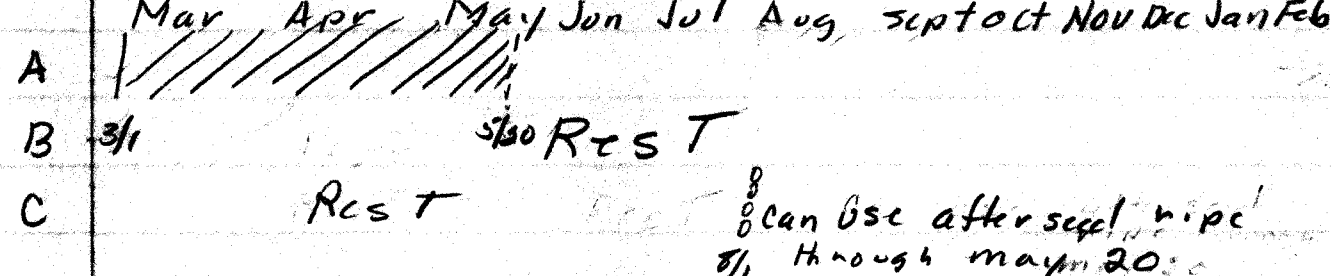
practicle plan

Coleman Seeding
12 mo Formula



Key spp E. Cinereus.

Grazing Season



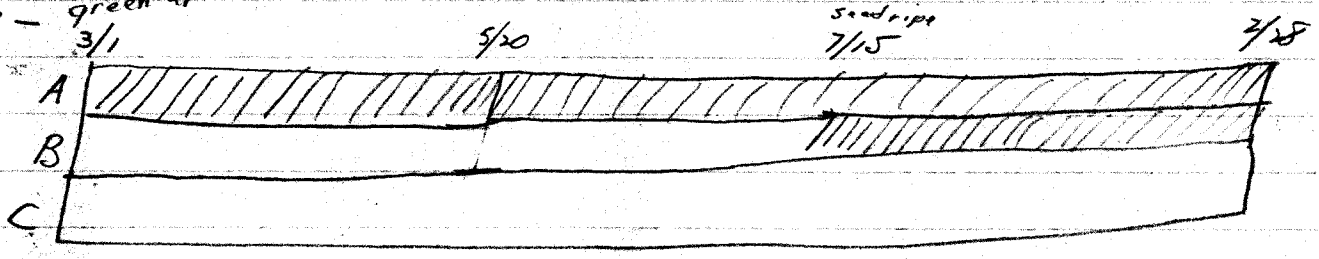
probably adequate rest with one growing season of rest. treatment not needed

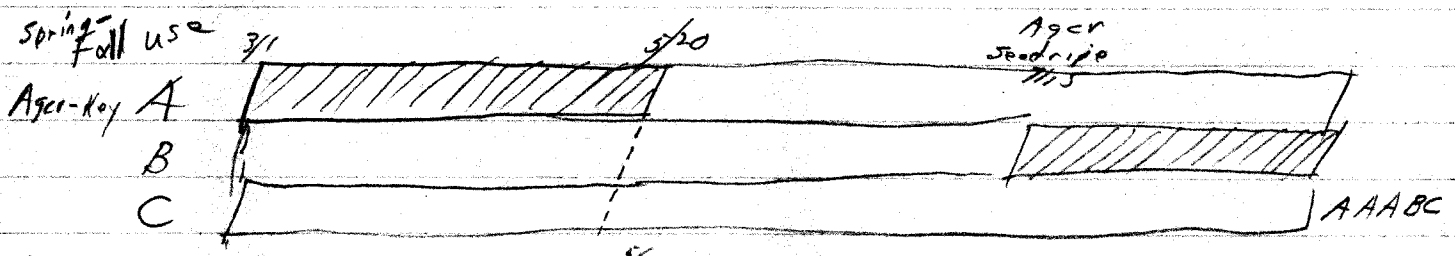
Jim Brunner

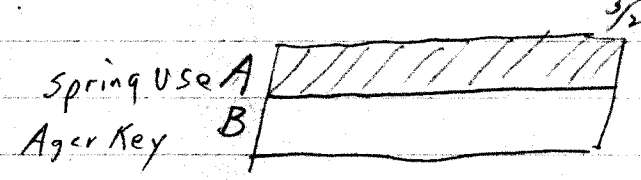
Practical Grazing System.

Coleman → Agcr. Key

Sundy – green-up



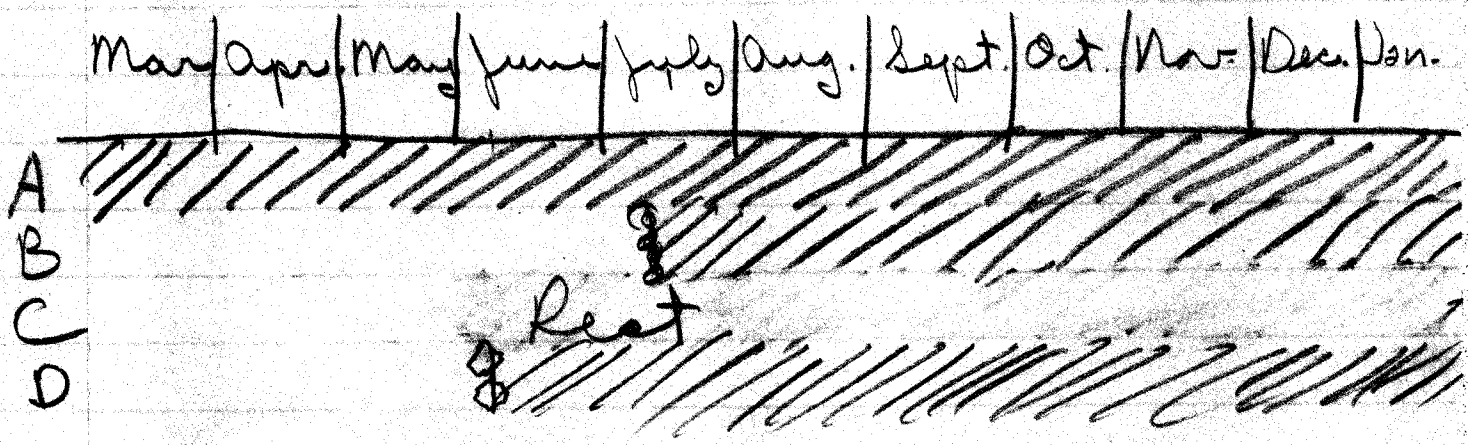




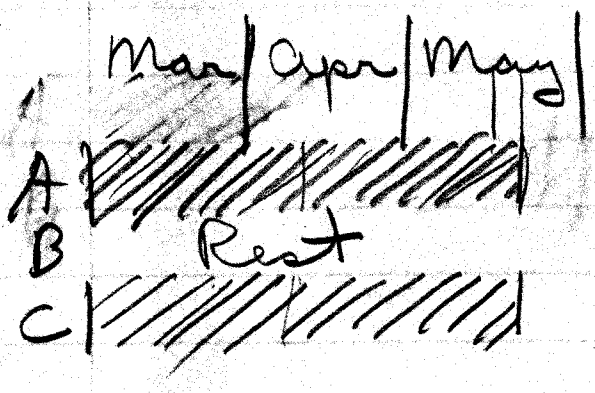
AAAB

Sheridan Kaiser

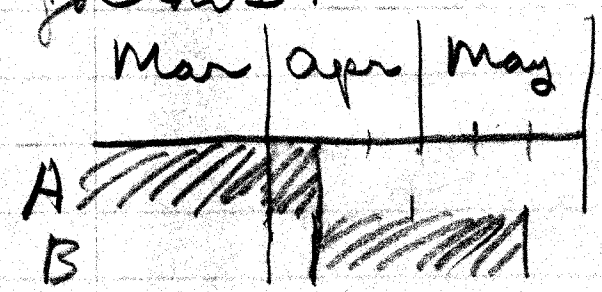
Livestock Grazing Formulas
Colmen Pasture



Key Species - Agcr seed ripe 7-10

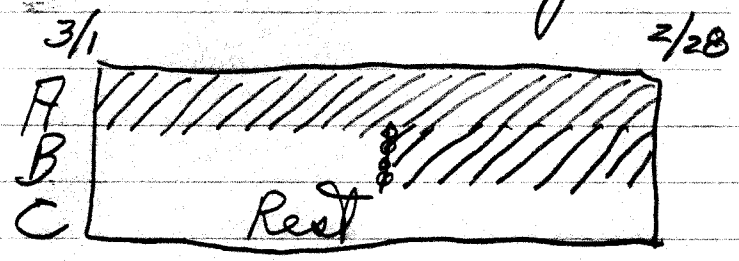


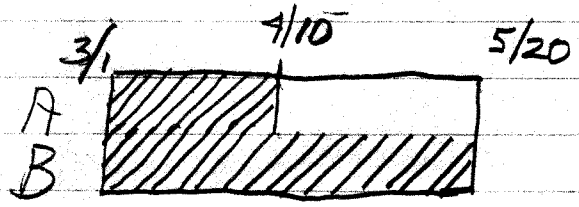
I would want to combine this pasture with the Sandy pasture (Sandy and Colmen as one pasture) to get three pastures or use two pastures as follows:



Sid Houpt

Grazing Formula

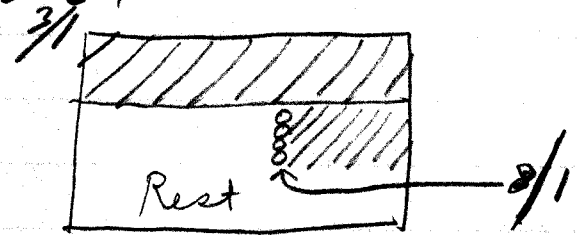




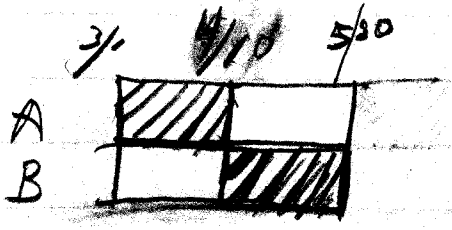
key species — crested wheatgrass

Marvin H.

Grazing formula - Coleman 12 mons



elci

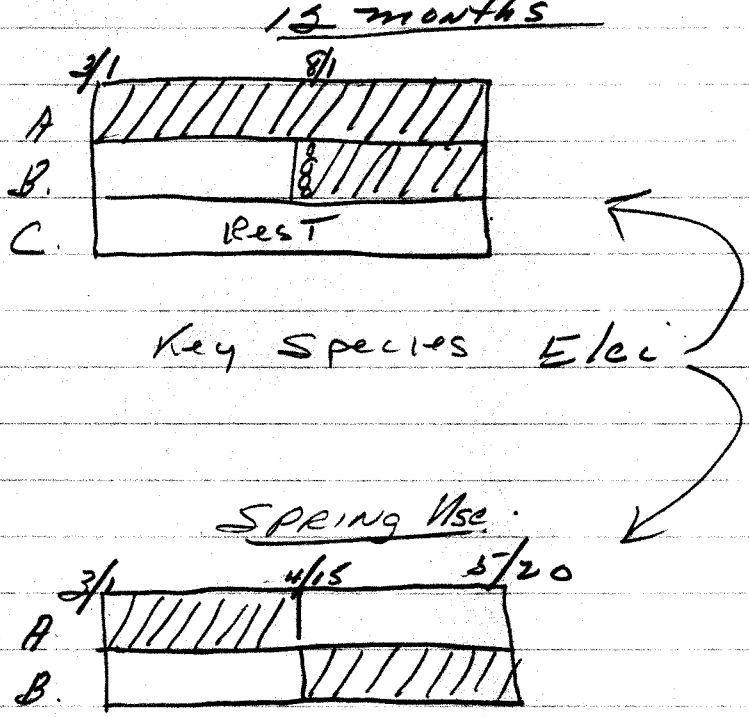


Mar 1 thru May 20

Key elci

Larry Doughty

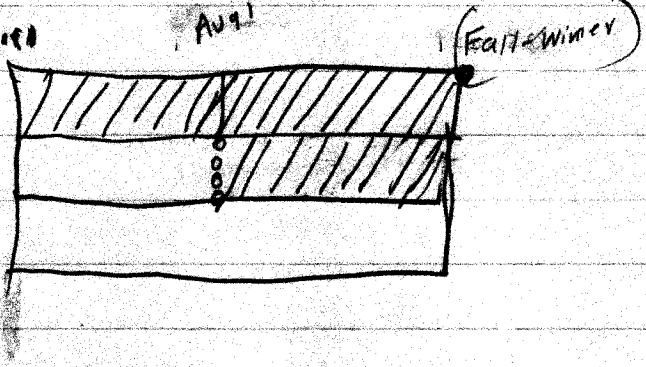
Coleman Seeding



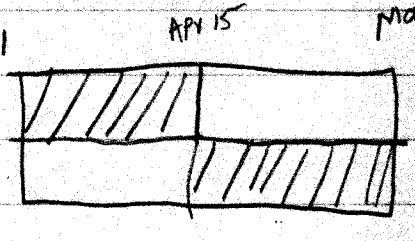
Cole Man

1 Key specie — ELCi LATEST To Seed—

Year Round →



Spring ONLY →



Agcr will Recieve MAJORITY OF USE

DepAOLi

Use throughout the Year — Arnold Bullock

Formula for Management — GRAZING FORMULA — Elymus cinereus — (Coleman Pasture)

TREATMENT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
A			Graze					(2)				
B				(1)	Rest for Seed Production							
C					Rest for Seedling Est.							

Apr. 15

(My observations are that Elymus cinereus seed does not ripen until after Sept. 1)

(1) Plus or minus 15 days from 5/ depending upon weather & available moisture for regrowth.
(2) Plus or minus 10 days to suit operator's Convenience.

YEARLY GRAZING SCHEDULE

MANAGEMENT UNIT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
First Year 19												
Second Year 19												
Third Year 19												
Fourth Year 19												
Fifth Year 19												
Sixth Year 19												

GPO 844 - 885

Spring Use Only — Arnold Bullock

GRAZING FORMULA

Formula for Management — Elymus cinereus — (Coleman Pasture)

TREATMENT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
A			//////	////// (1)	Rest for Seed Production							
B			//////	/ Apr 15	Rest for Seedling Establ							

(1) Plus or minus 15 days depending weather and available soil moisture for regrowth

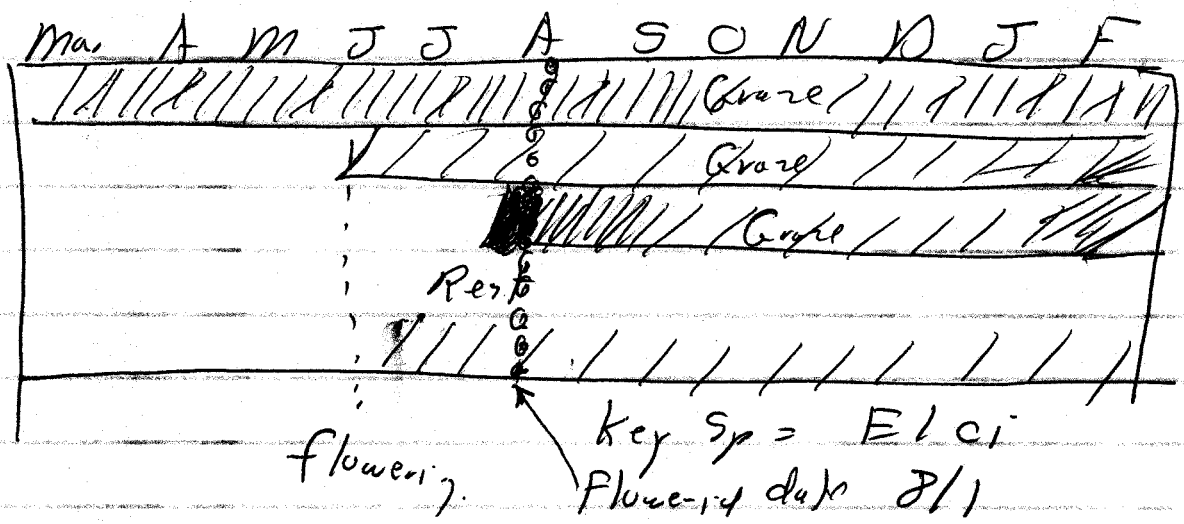
YEARLY GRAZING SCHEDULE

MANAGEMENT UNIT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
First Year 19												
Second Year 19												
Third Year 19												
Fourth Year 19												
Fifth Year 19												
Sixth Year 19												

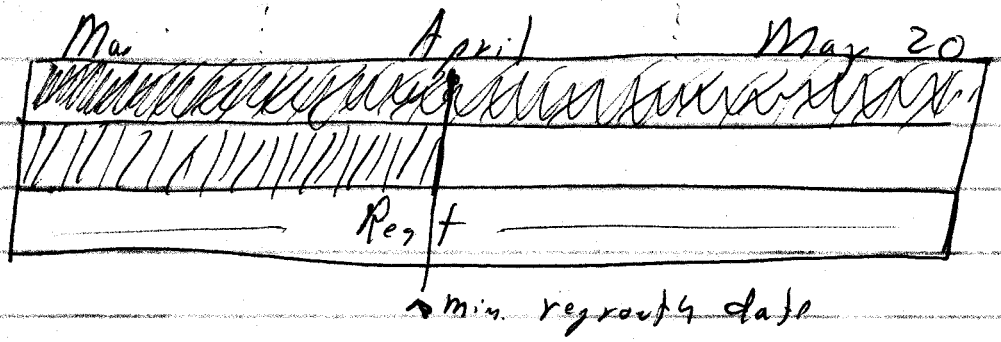
GPO 844-885

Mel Wilhelm

Practical Plan for Coleman Seed.

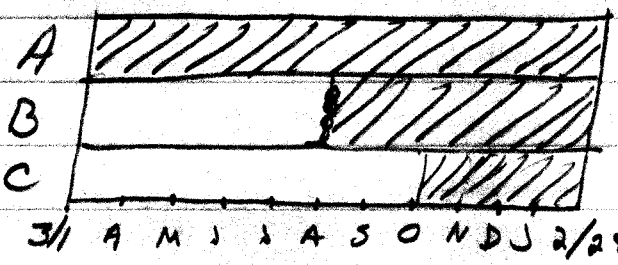


Mar 1 - May 20



Coleman Seeding Most, Ernest

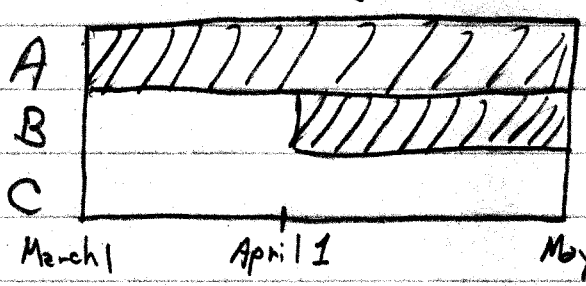
12 Month Use



Key Species
Giant Wildrye
Seed size 8/1

Giant Wildrye to protect all but Sage which is to late to plant desired Species
If needed C treatment could be grazed in winter under 12 Month Grazing system and would facilitate the planting of Browse Species.

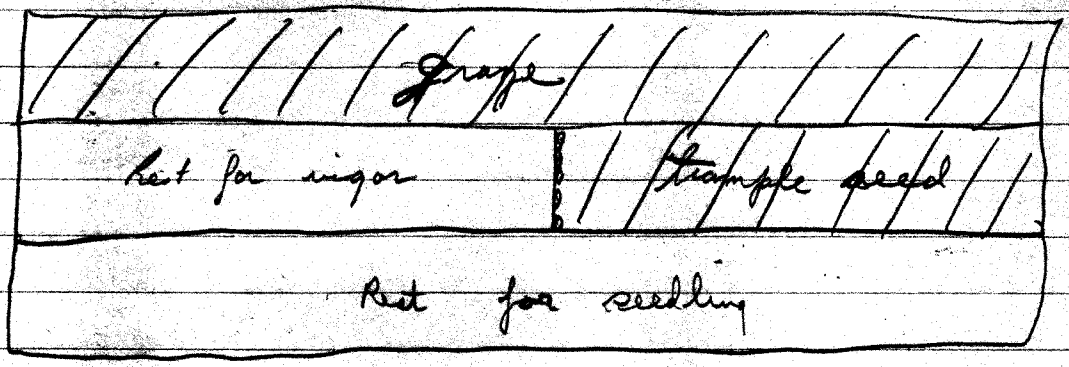
Spring Use only

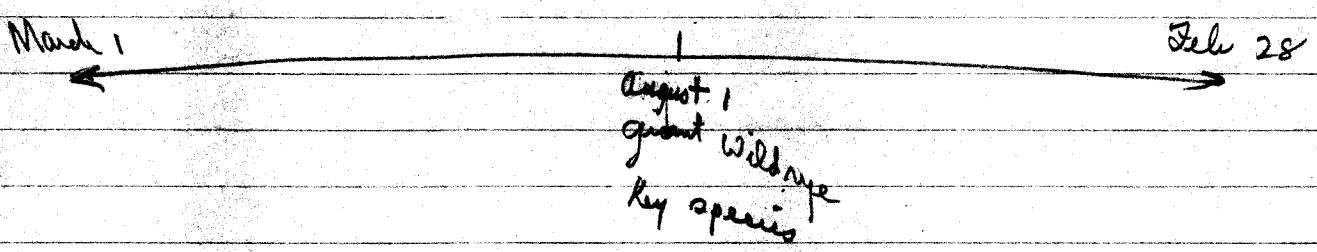


This would allow B treatment time to Gain some vigor & still time for regrowth after livestock leave the Area.

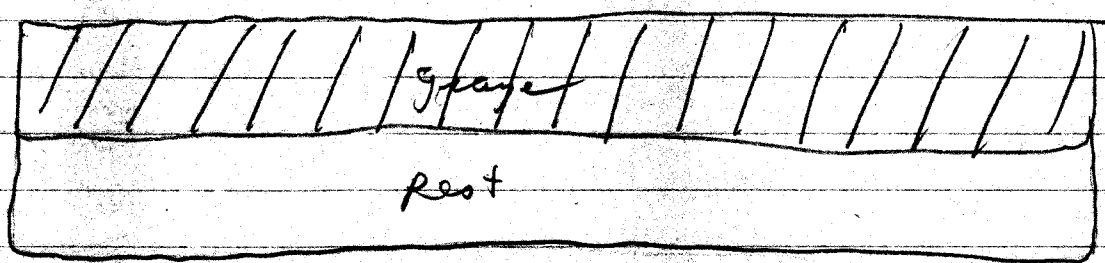
Coleman seeding — Bruce E. Portwood

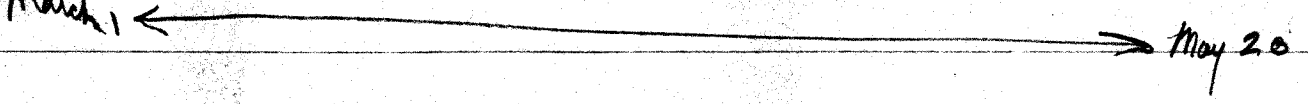
formula for yearlong use





formula for spring grazing season

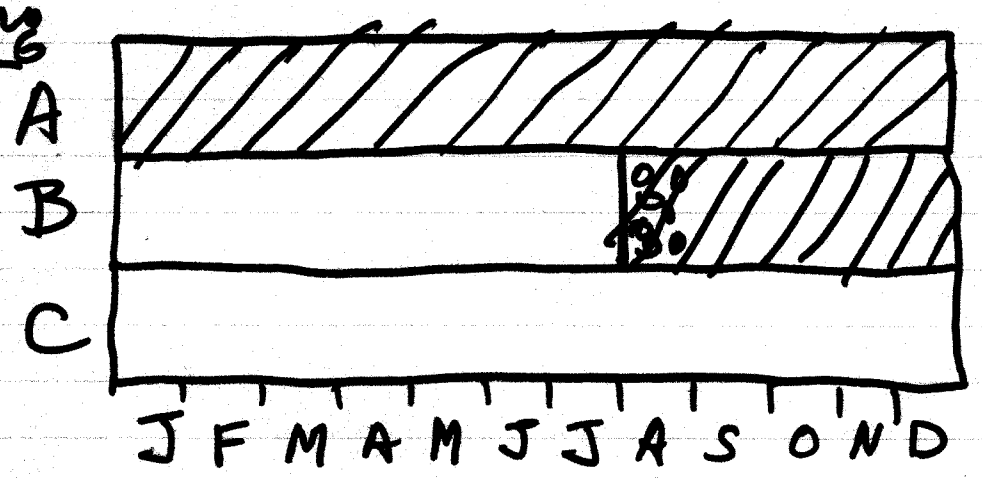




Harper

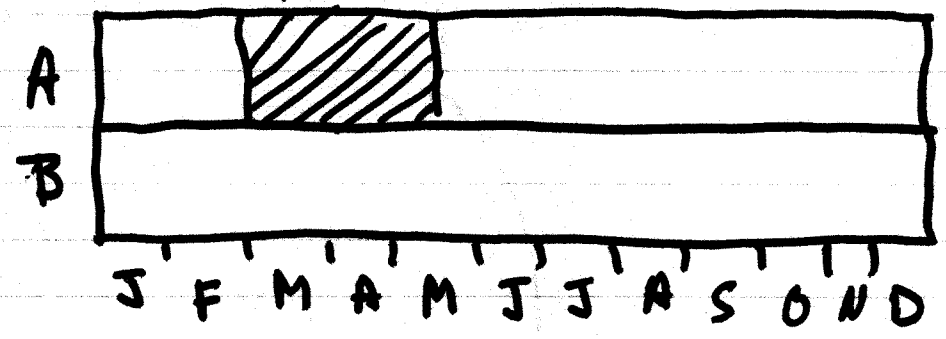
Coleman Seeding Grazing

Year-long



Using Elymus cinereus as key species w/ seed ripe on 8/1

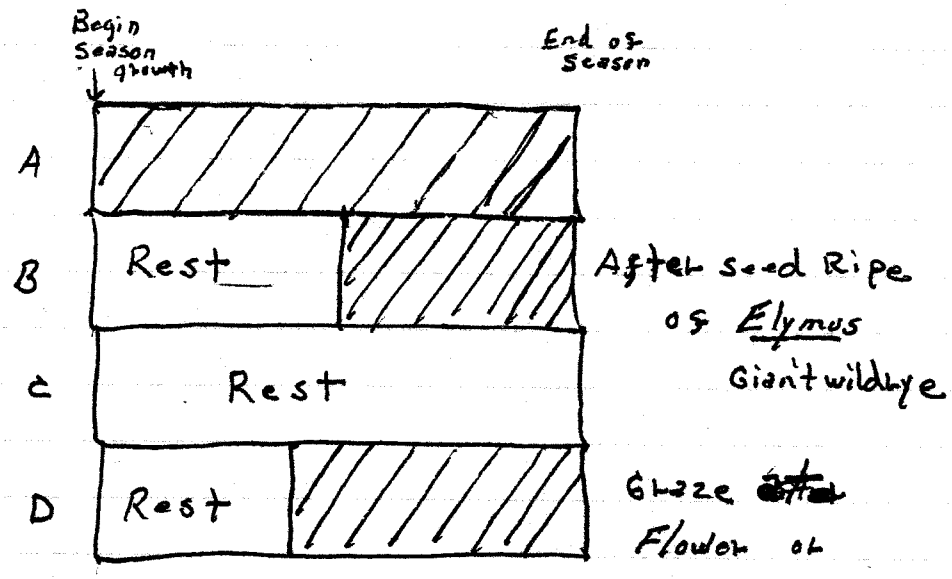
Spring use only March 1 – May 20



Note: I would like to also graze in fall.

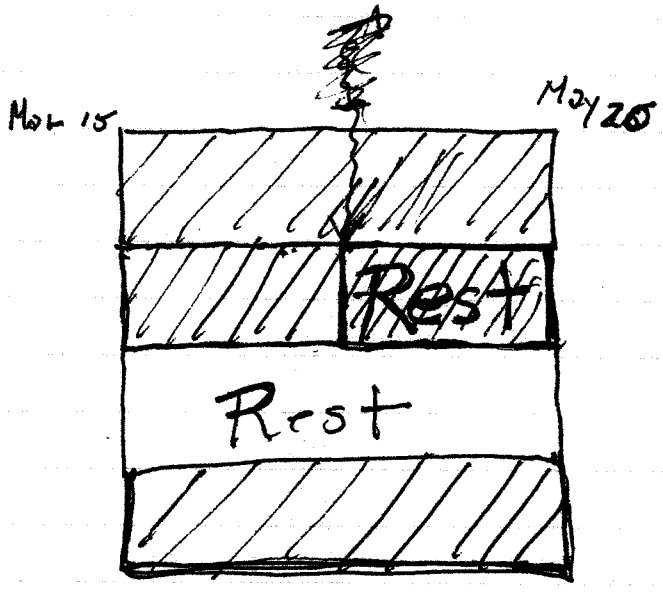
Getty

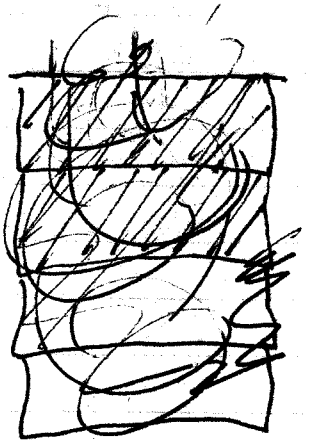
Coleman Pasture



i.e.

Wildrye seed Ripe August 1

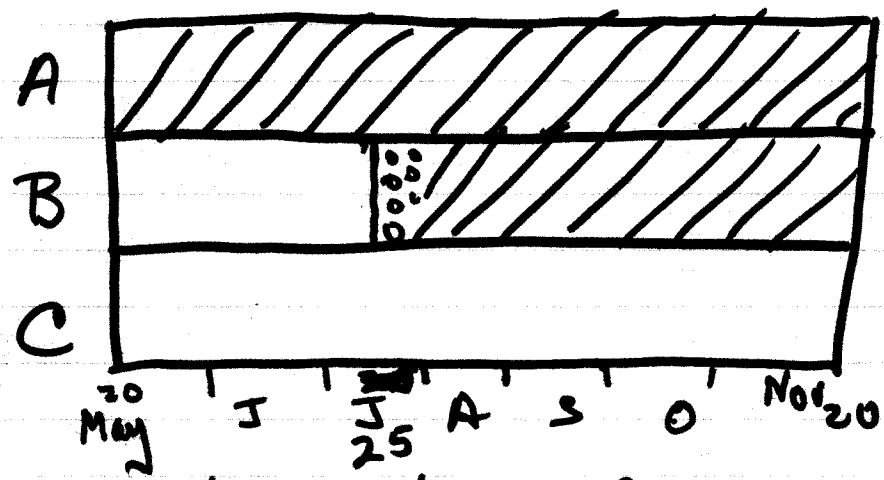




i.e.

Harper

Hill Camp- May 20 – Nov 20



Based on seed ripe time of Fesc, Hesp, Stipa spp Sihy & other perennial grasses and bitterbrush. & Eriogonium ← Seed ripe up to July 25 →

I would think seriously about fencing bitterbrush area and place where I would want to extend bitterbrush if I felt necessary. I doubt if bitterbrush in central portion serves as winterrange — maybe that in SW which we did not see is in winter range zone. If could be fenced cheaper than fencing into 5-6 pastures.

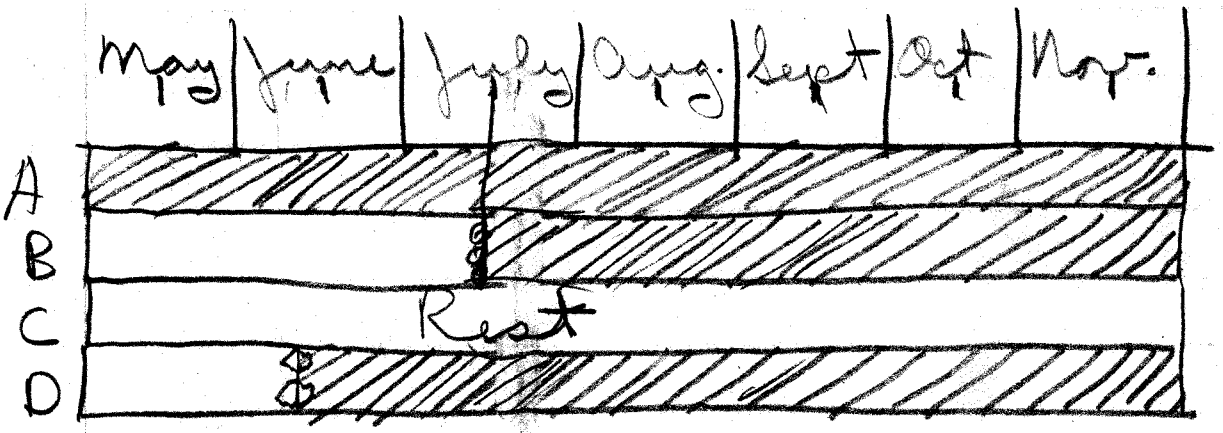
There is a great need for increased forbs

Key species

Eriogonium — Seed ripe July 25

Sheridan Hansen

Grazing Formula
Hill Camp

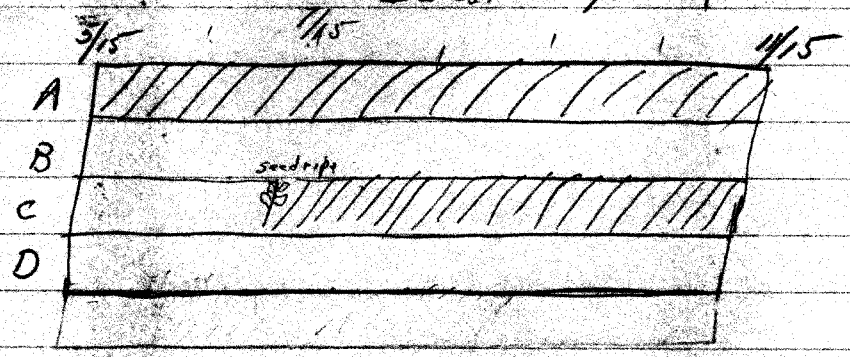


Key Specie - Idaho fescue
seed ripe 7-15

Jim Brunner

Hill Camp

Ideal System



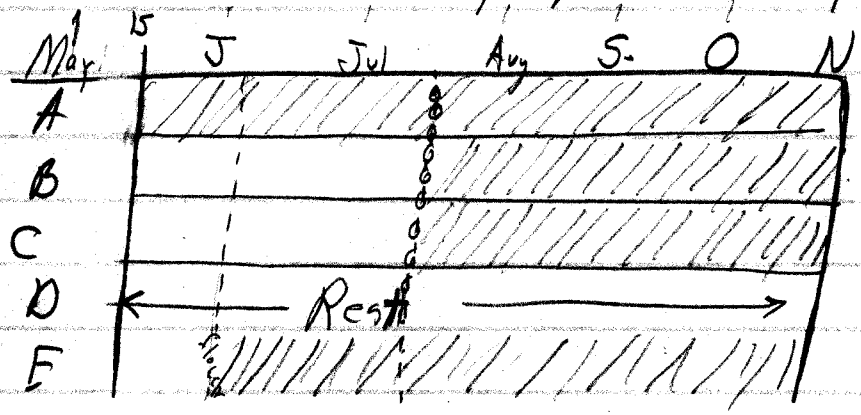
Key Spp Idaho Fescue

Seedings 7/15

Mel Wilhelm

Hill Camp Practical Formula

Key Sp = Feid, Seed Ripe 7/15
Flowers 6/10



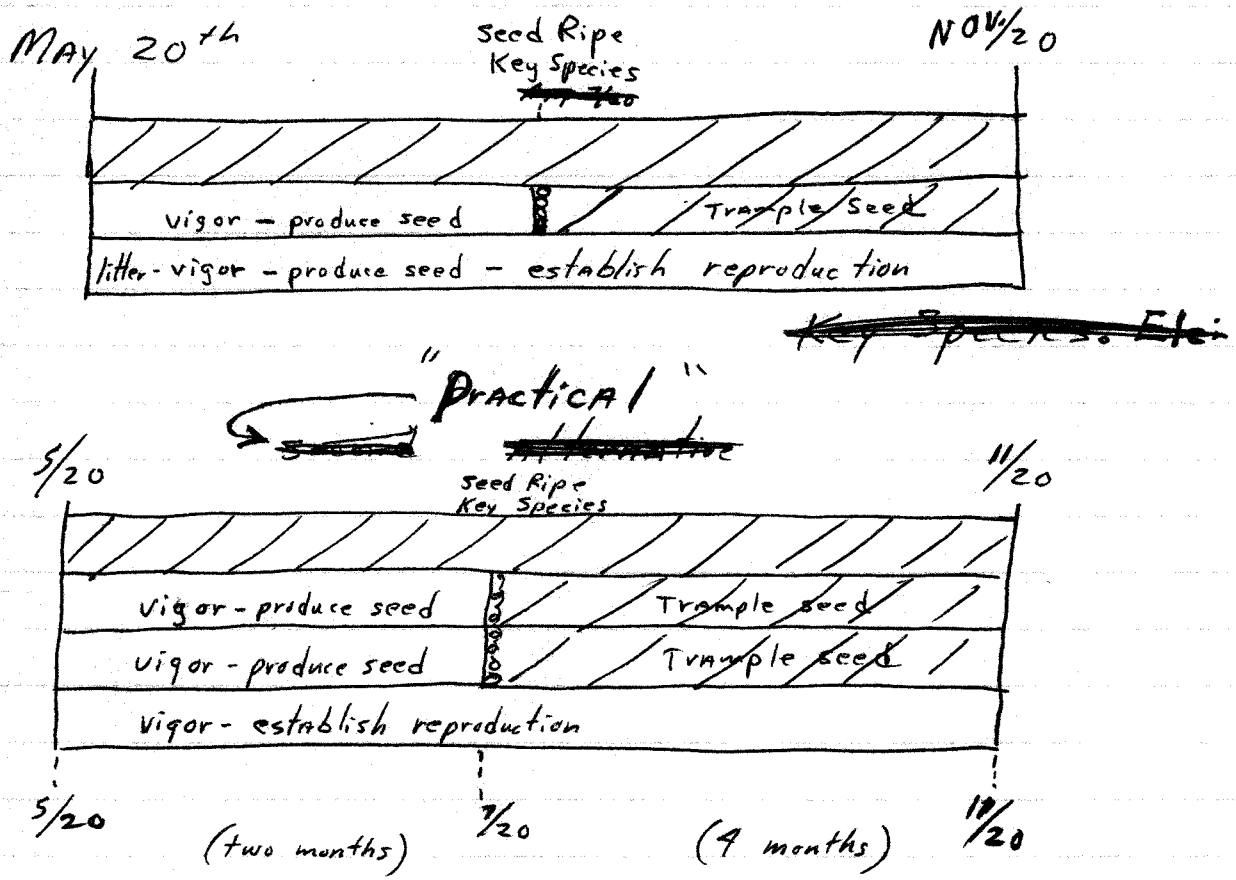
A. Graze
B Defe. for Litt.
C Defe. for seed & Transp lp
D Rest for reproduction
E Defe. for seedling est.

Key Specics = Idaho Fescue Flowers June 10
Seed Ripe July 15

HILL CAMP

6/1/72
Amajor

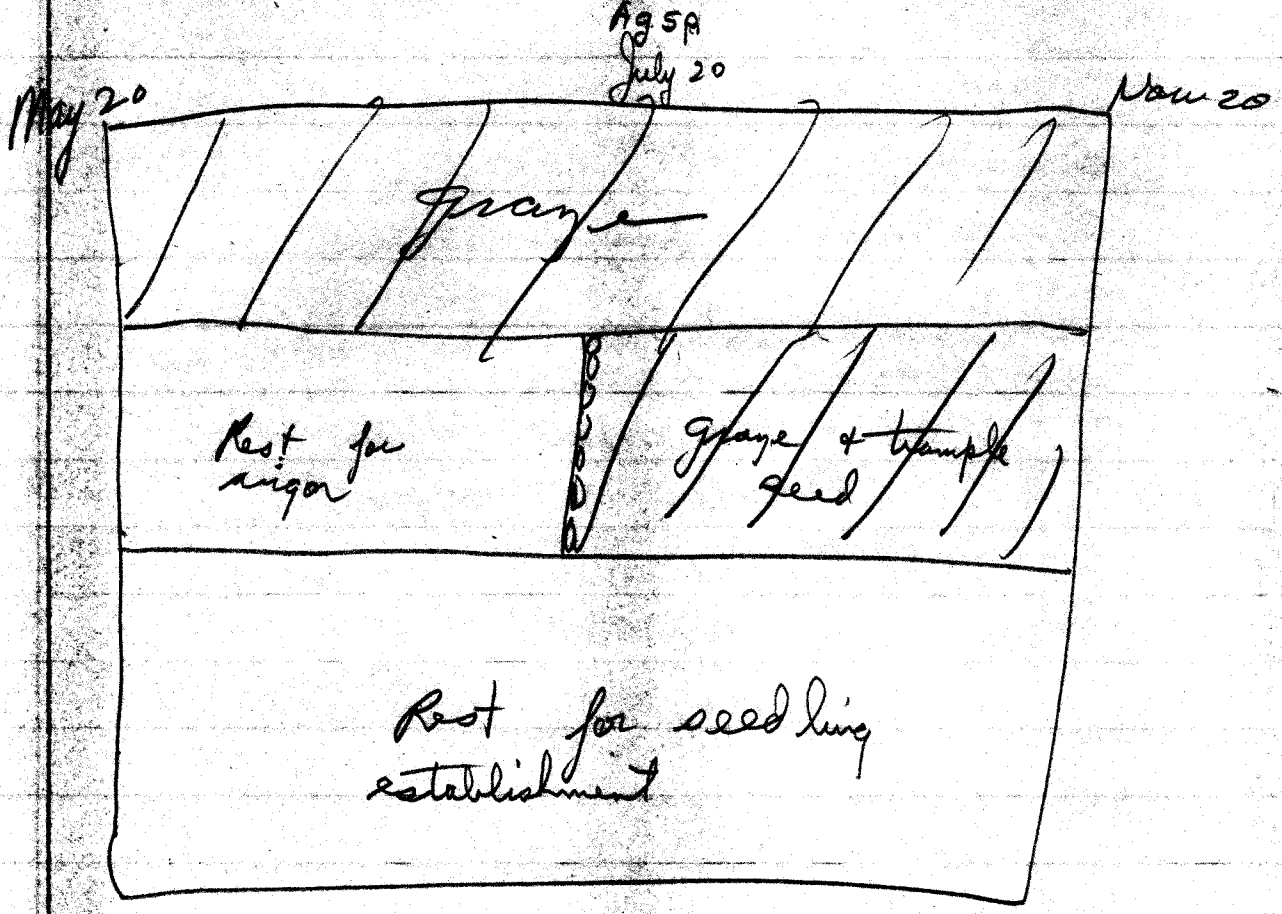
1. Season of Use: 5/20 to 11/20



KEY SPECIES

Elymus cinereus 8/1

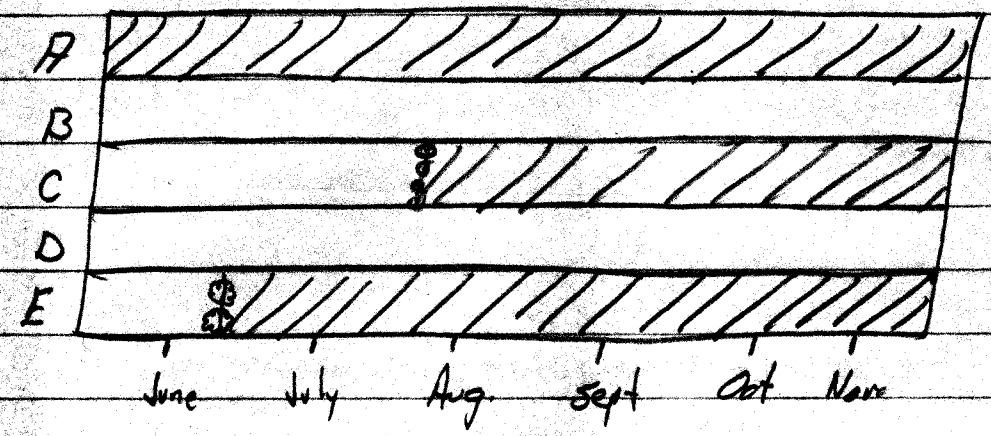
Hill Camp A lot Bruce E. Parkinson



seed ripe date 7/20 Bluebunch wheatgrass

Hillcamp Area — Most Ernest

May 20 — Nov 20



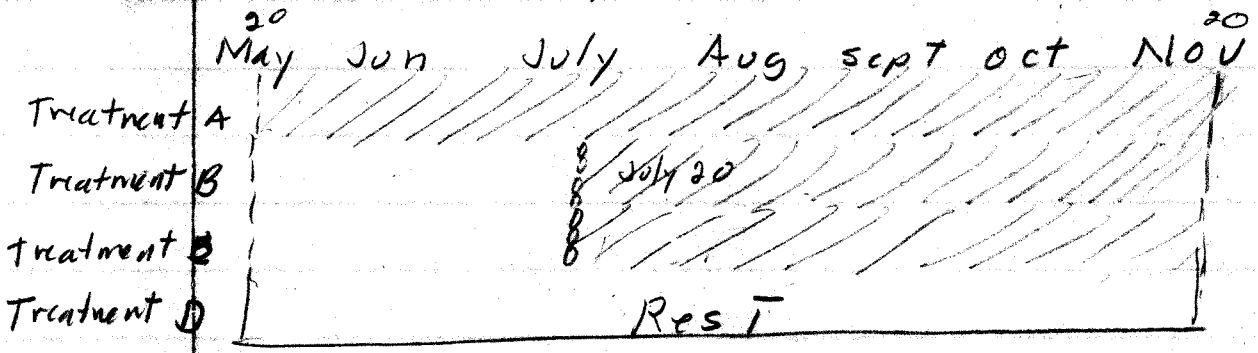
Key species

Idaho Fescue: Flw - 6/10

Seed ripe - 7/15

William Miller
Lakeview session

Hill camp practicle



Key spp Stipa spp. 7/20 Seed ripe.
Idaho fescue " "

or possible
3 year with A, B & D

Hill Camp Allotment — Arnold Bullock

GRAZING FORMULA

Key Forage Species: Festuca idahoensis

TREATMENT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
A					20	Graze	15	(1)				
B			Rest Feid for Vigor & Seed Production					Trample Grass Seed				
C			Rest Feid for Seedling Establishment. Rest Putr for First Year leader growth. Litter accumulation.									

Topographically the allotment can be divided into three pastures, with medium and high elevation range in each, more easily than it can be divided into four pastures. (See Map)

(1) Second Year Growth on Purshia tridentata for Seed Production. Little use by cattle prior to July 15.

YEARLY GRAZING SCHEDULE

MANAGEMENT UNIT	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
First Year 19												
Second Year 19												
Third Year 19												
Fourth Year 19												
Fifth Year 19												
Sixth Year 19												

GPO 844 - 885

Usable Area

Coleman	2500 acres		
Sandy	4400 "		
Hill Camp	19000 "	usable	24,500
" "	5500 "	Basin	

Management renewable resources

Assume undeveloped

Objectives

	Coleman	Livestock
	Sandy	Recreation — Camp sites
	Hill Camp	Wildlife — Deer, birds
		Watershed — Veg cover
		erosion, roads

Key species – objectives

Hill Camp — Livestock — Fi,

Sandy — Acr (natives)

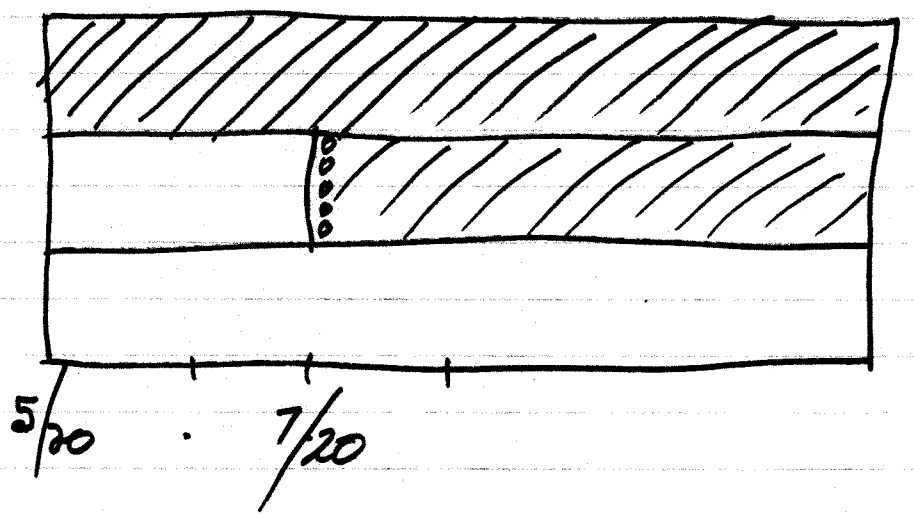
Coleman

Veg. formula (ideal)

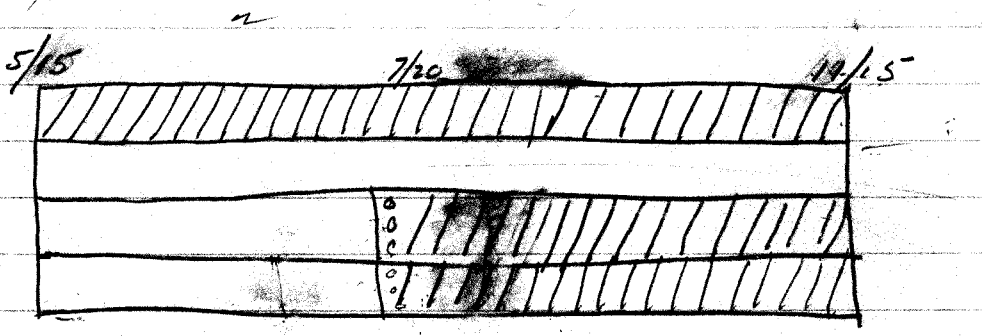
Hill Camp, Sandy, Coleman

Practical management.

Pods 6/20 - 7/1



Hull Comp.
6 months use. Larry Doughtry

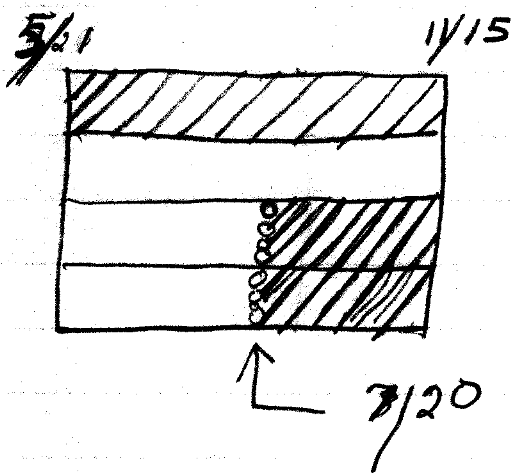


Aq Sp. – Key west

Hammersmark

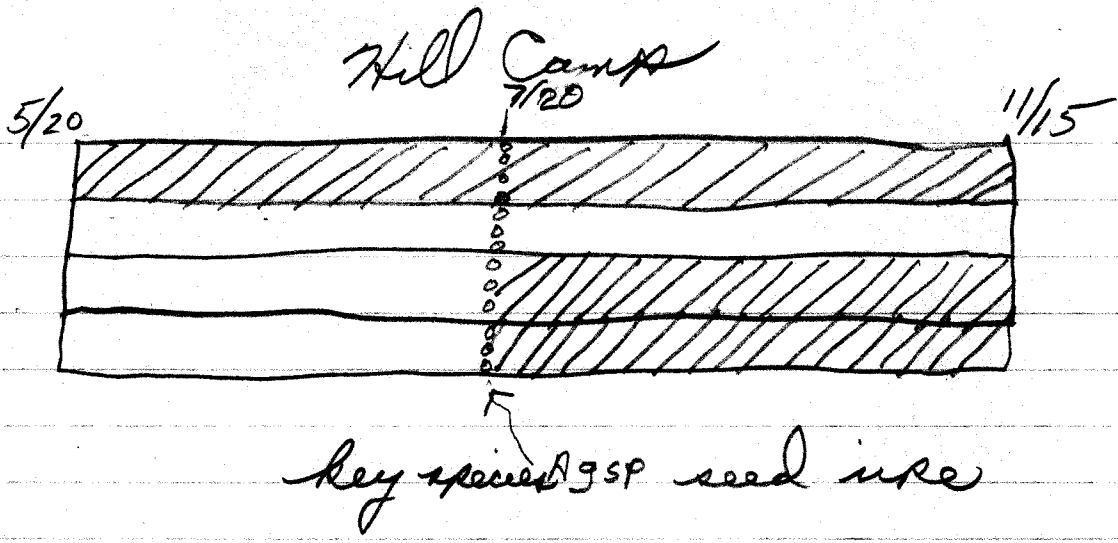
Hill Camp

Grazing Formula



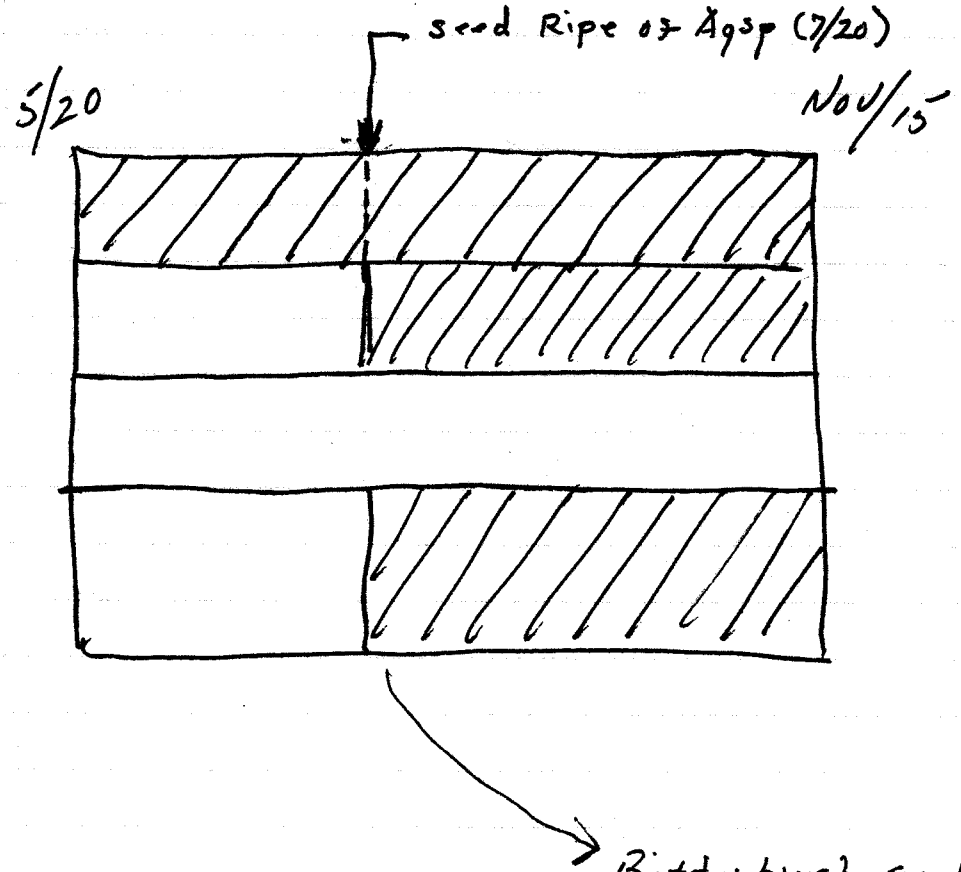
Agsp - Key species

Sid Houpt

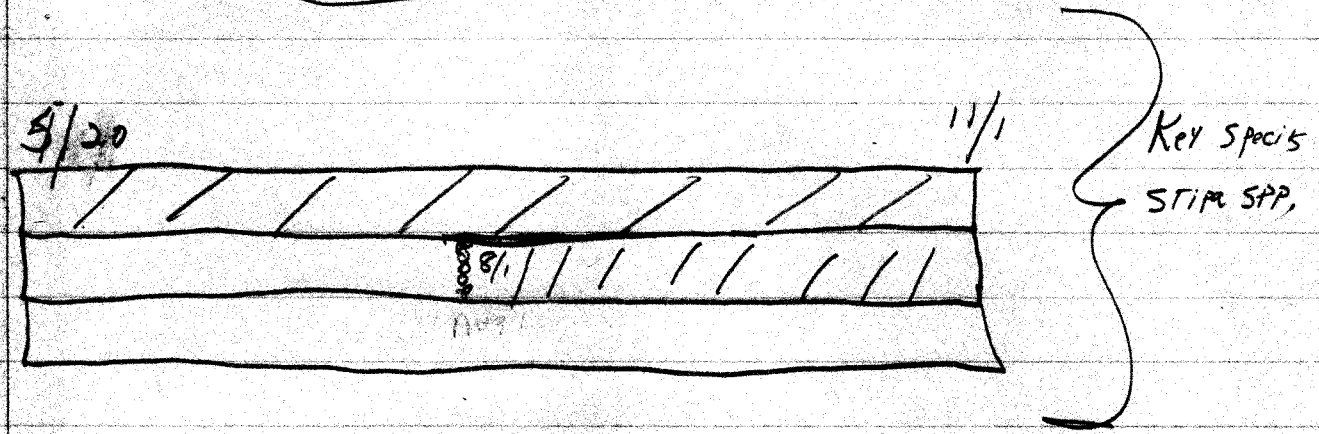


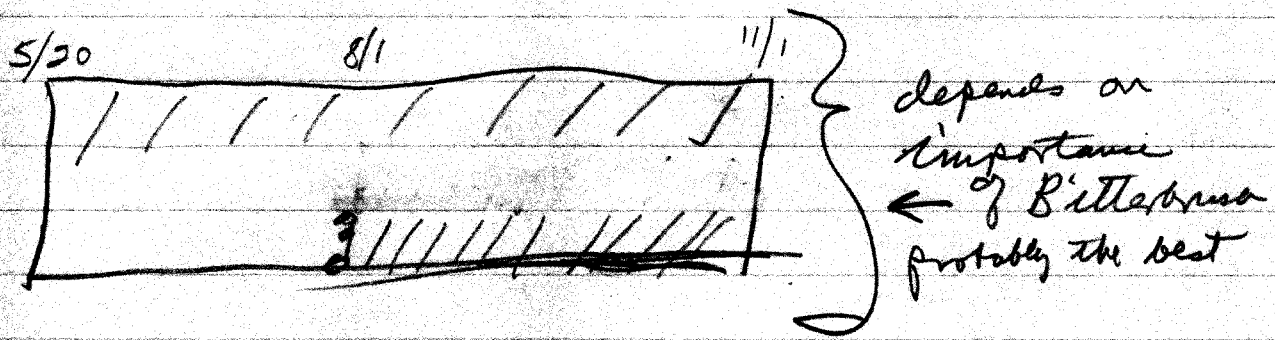
Getty

Hill Camp



Hill Camp





Key Species- Bitterbrush

DePAOLi

Hill Camp Allotments — Arnold Bullock

Management Objectives for Seeded Pastures

Coleman, Sandy

I. Coleman Pasture:

1. Maintain and increase cover for soil stability – all plants
2. Maintain and increase forage production through a grazing system – Crested wheatgrass (and other wheatgrasses)
3. Provide seasonal deer and antelope forage — Crested wheatgrass and on the enclosed native range, Shadscale

II. Sandy Pasture:

1. Maintain and increase ground cover for soil stability through grazing management and seeding construction sites. – Crested wheatgrass and all native plants.
2. Maintain and increase forage production through a grazing system.
3. Provide feed and habitat for deer, antelope and sagehen on the seeded area and surrounding native range fenced with the seeding and the area surrounding the reservoir — Crested wheatgrass, native ~~&~~ perennial forbs and grasses
4. Improve aesthetic values through seeding construction sites.

MANAGEMENT - OBJECTIVES

6/1/72

SANDY & COLEMAN

1. Watershed (soil)
2. Provide ~~Forage~~ Livestock Forage
3. Provide Winter Forage for Mule Deer & Early Spring
4. Provide Chucker & Quail Habitat (forage & Cover)

Key Species

2. Elymus cinereus - Coleman
   Squirreltail - Sandy
3. Crested wheatgrass
   Sagebrush
4. Cheatgrass
   Sagebrush

William Miller
Lakeview session

Sandy and Coleman seedings
Management Objectives

1. Watershed [illegible]
2. Early spring livestock forage
3. Wildlife habitat winter forage
4. recreation values? (not outstanding)

livestock	wildlife	recreation values
A. Cristatum	A tridentata	Arrow heads

Seedings

Jim Brunner,

Management Objectives.

Coleman:

Protect watershed (water & wind erosion)

Provide livestock forage - spring = Ager

Provide recreation (hunting) — chukar, deer) thru habitat mgmt.
↓ Brte ↓ Ager, Brte, Artr ↳ Ager,

Sandy:

Protect watershed (wind & water erosion)

Provide livestock forage - spring, → Ager

Provide recreation (hunting - ~~chukar~~, deer) thru habitat mgmt.
↓ Ager, Brte, Artr

Mel Wilhelm

Management Objectives for Coleman Seed. & Sandy Seed.,

1. Increase vegetative cover
2. Maintain seeded species wheat grass. Agcr
3. Maintain & Improve natural species - Rye grass Elymus species
4. ~~Provide~~
4. Provide winter deer browse Putr Grsp Atco

Objectives of management — Harper

Coleman & Sandy

Coleman

Watershed –
Livestock forage
Winter range for deer, antelope & sage grouse
Year-long habitat for chukar partridge.
Chukar hunting area.
Sage grouse strutting & nesting area.

Key species – all perennial grasses – spring green-up time grass seed for protein – milkvetch – low & big sage. cheat grass and Indian rice grass seed. – buckwheat

Sandy

Watershed
Livestock forage
Secondary Winter range & year-long habitat for antelope & deer and sage grouse
Sage grouse nesting area
Sage grouse, antelope, deer hunting area.

Key species – all perennial grasses and perennial forbs. low sage big sage, buckwheat, rabbit brush hopsage.

Objectives of Management — Bruce E. Portwood

Coleman & Sandy seedings

Objectives		Key species
1. Watershed	—	All plants
2. Livestock forage	—	Crested wheatgrass
3. Wildlife forage	—	Shadscale
4. Recreation	—	All plants

Management Objectives — Mod. E. D.
Sandy & Coleman Seedings

1) Watershed
   Increase Vegetative Cover - Hold soil in Place

2) Livestock Forage (Crested Wheat)
   Increase Crested Wheat & Native Grasses
   - Protect Seeding -

3) Wildlife Forage (Sagebrush)
   Winter Forage

4) Recreation (Sagebrush)

Sheridan Hansen

Management Objectives on Colmen and Sandy Seedings

1 - Watershed protection - Soil stabilization - improve ground cover
2 - Livestock production (Spring period)
3 - Provide Deer Winter Forage

Key Specie
Watershed — all species

Livestock — - Crested Wheat
- Squirrel Tail

Wildlife — Low Sage

Management Objectives Larry Doughty

Coleman + Sandy.

1. Maintain existing cover.
2. Provide sustained yield of early feed for livestock + increase desired stands.
3. Provide early green feed for deer.

Agcr Key species for both.

Marvin Hammersmark

Management Objective

Coleman + Sanding Seeding

1. Provide Watershed protection
2. Maintain + improve Crested Wheat stand for maximum Livestock forage (Spring Use)
3. Provide early spring forage for deer

Key Species - agcr for Watershed
+ livestock forage
early green forage for deer

Sid Houpt

Landy - Coleman objectives

1. watershed protection
2. maintain livestock forage production (early spring forage)
3. wildlife forage and habitat production (mainly early spring forage for deer)

Key species for livestock and wildlife — crested wheatgrass

Objectives of Mgt For
Sandy & Coleman seedings — 1 Thru 3

1 Achieve Maximum Vegetative Cover
2. Harvest Maximum Livestock Forage (desirable species mgr Elco)
3 provide desirable green Forage For deer- Early spring,
* Sandy only → 4 Reduce Soil Erosion Along Pipeline At Sandy seedings

Dep Ao Li'

Crafty

Management Objectives

Coleman Seeding of Sandy

1. Provide Early spring forage to defer Use on Native Range
2. Increase Vigor, Density of Agcr & Litter
3. Recreation use

Chukars — Bkte consined to adjacent Native

Deer winter — Agsp & Adjacent Native

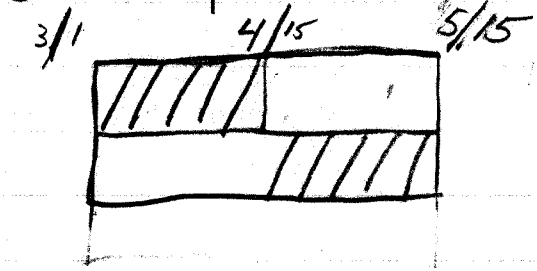
Juniper & Browse

4.

~~Sandy~~

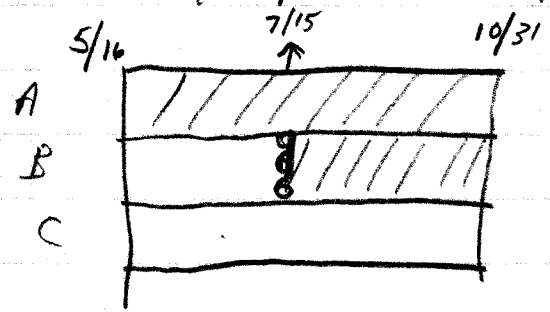
Ideal Grazing formulas 3 areas

Grazing Formula For Coleman of Sandy seedings,



Key species
Agcr - Ely spp.
Ag El.

Grazing Formula For HILL Camp



Key species
Feid - Stipa spp. Poa spp.

DepAoLi

William Miller
ha Review Session

Theoretical Formulas

Hill Camp area

	Mar	April	May	Jun	July	Aug	sept	oct	Nov	Dec.	Jan	Feb
Treat. A			↓									
" B			Rest		Seedripe 7½-7½							
" C					Rest							

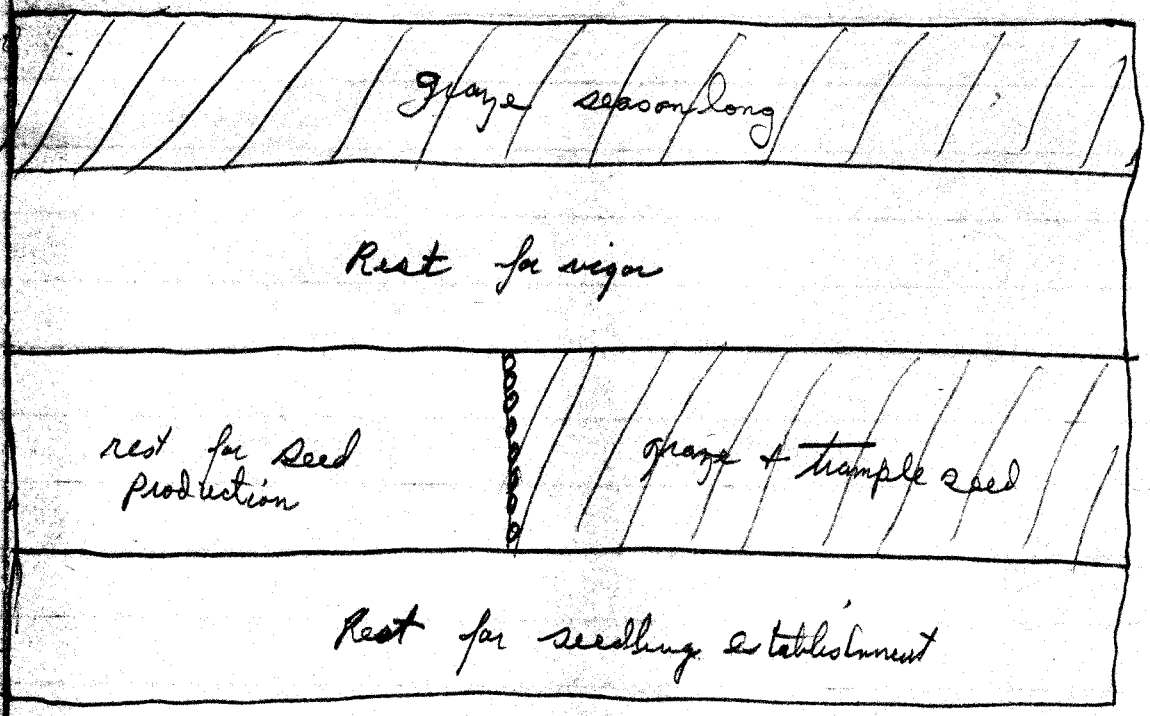
Key Species F. idahoensis Stipa spp.

Coleman & Sandy seedings
(same veg. plan & Key spp.)

Mar	April	May	Jun	Jul	Aug	sept	oct	Nov.	Dec.	Jan	Feb	
		↓										A, treatment
		Rest		Seedripe 7½-7½								B. "
		Rest										C. "

Key Species A. Cristatum

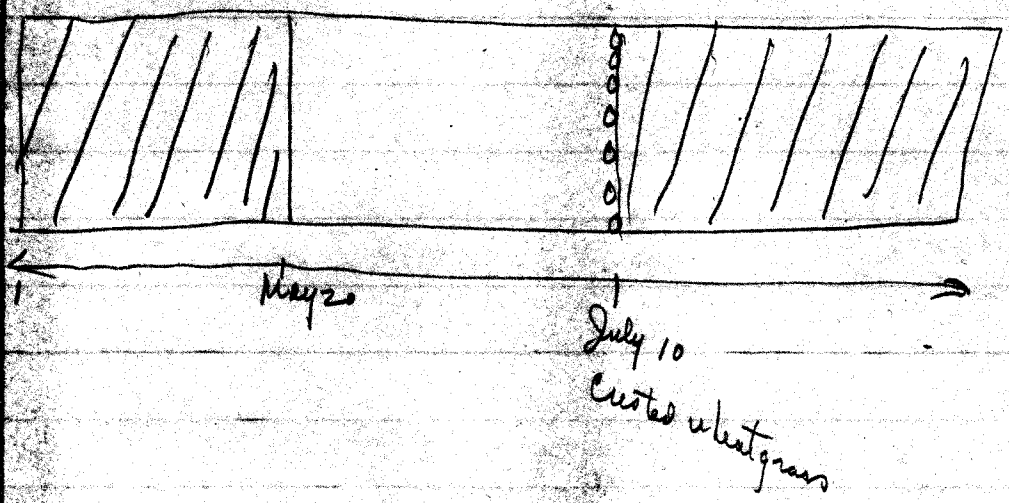
Hill Camp Allotment — Bruce Portwood



May 21 — July 20 — November 15

Blue bunch wheatgrass

Sandy seeding & Coleman seeding Lucie Portwood

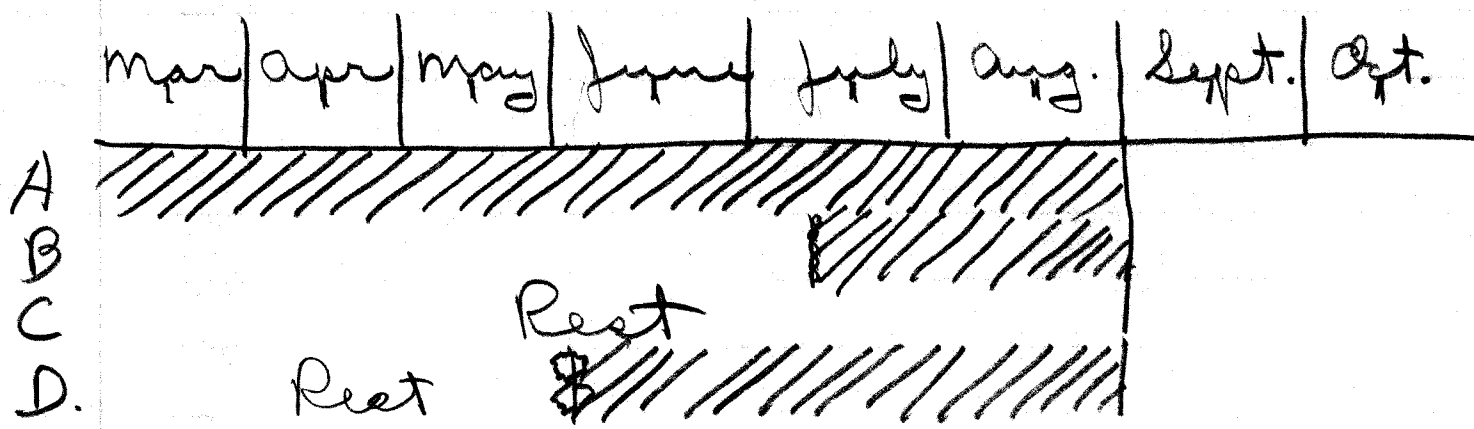


Sheridan Hansen

Ideal Formula

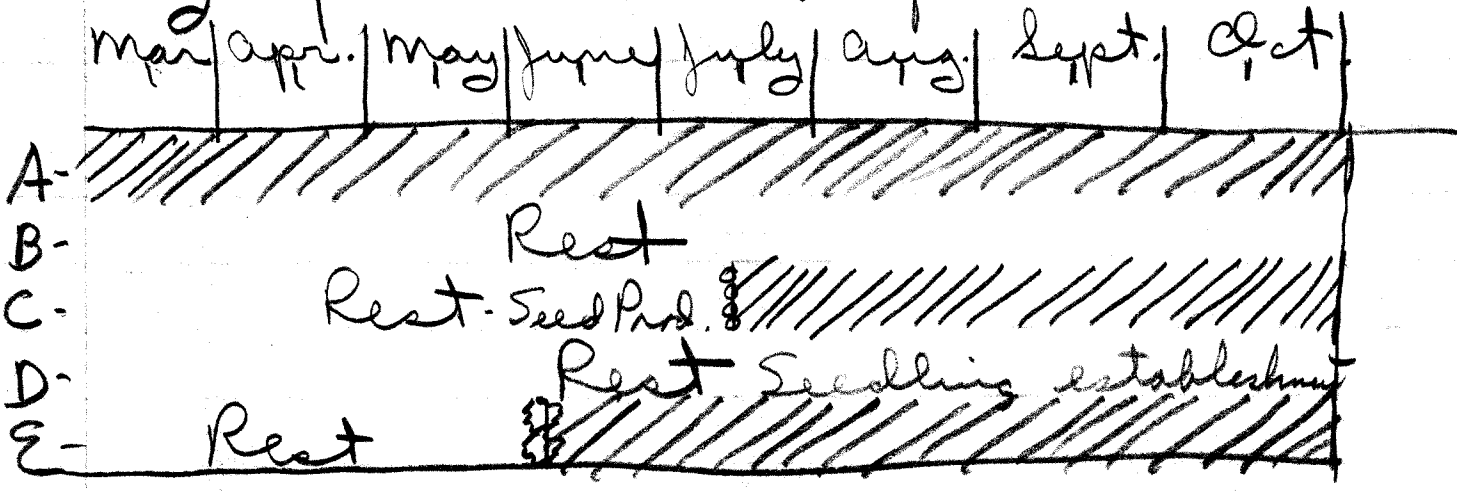
Colman + Sandy

Key Specie - Crested Wheat Grass



Hill Camp

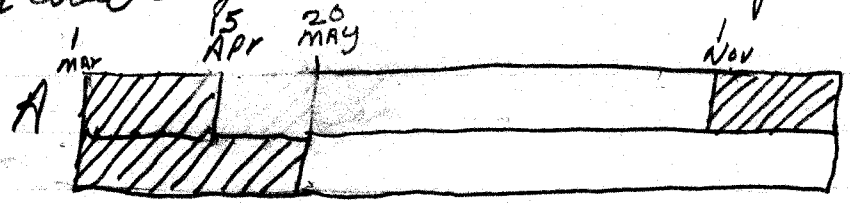
Key Specie - Idaho fescue



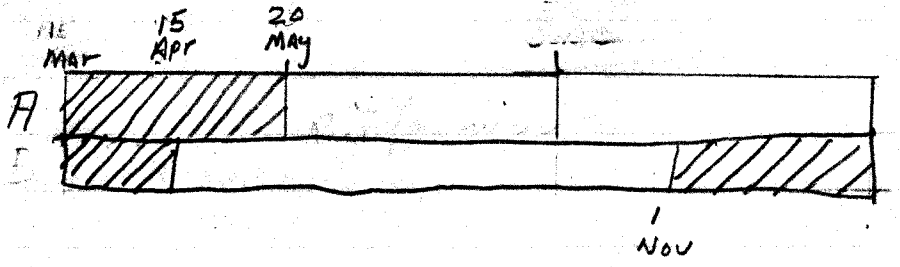
Grazing Formula

Sid Houpt

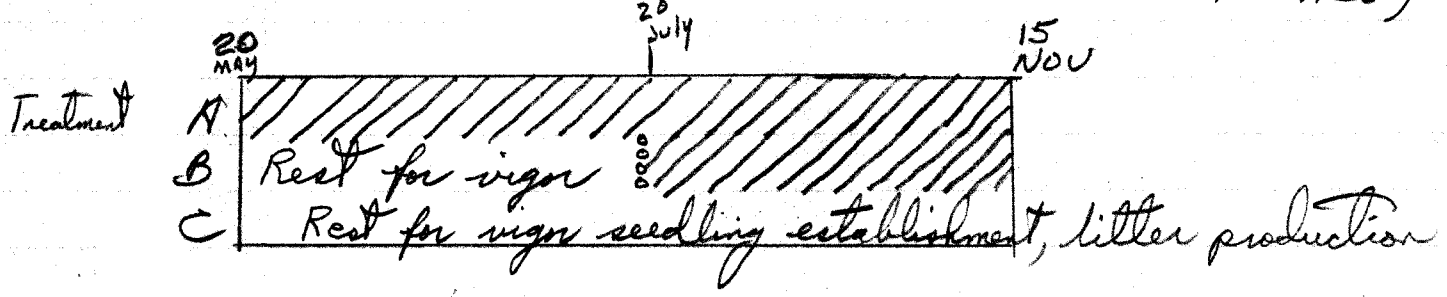
Sandy area key species (crested wheatgrass)



Coleman - area key species (crested wheat)

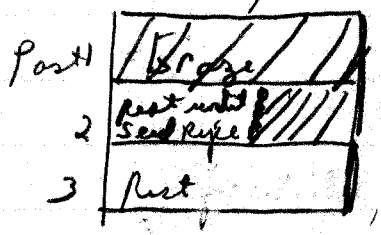


Hill Camp area (key species bluebunch wheat seed rise 7/20)



Mo Hammersmark

Approx 7/20 Native Range Hill Camp

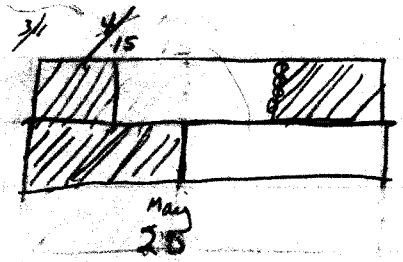


for maximum Bitterbrush reproduction but will maintain -

This formula doesn't provide

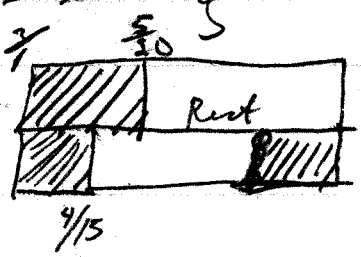
Agsp - Key species

Coleman Seeding



Key - Agsp

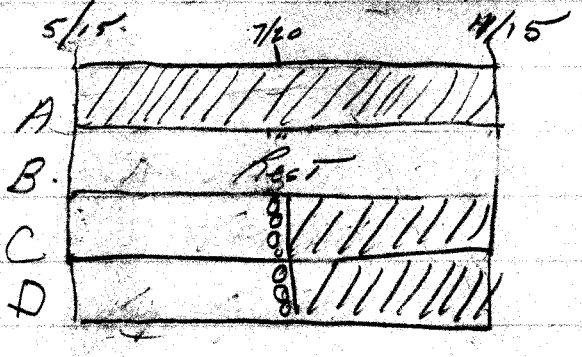
Sandy Seeding



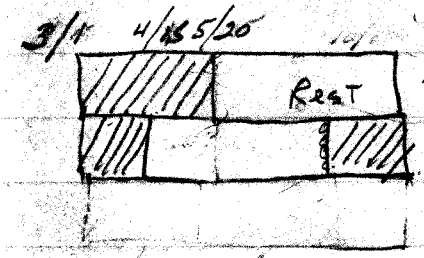
Key - Agsp

Grazing Formula - Larry Doughty

H.11 Camp.

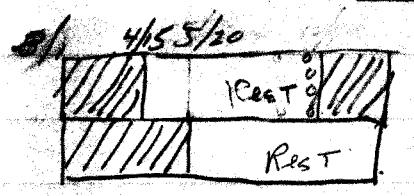


Coleman Seeding



Key Agcr.

Sandy Seeding.

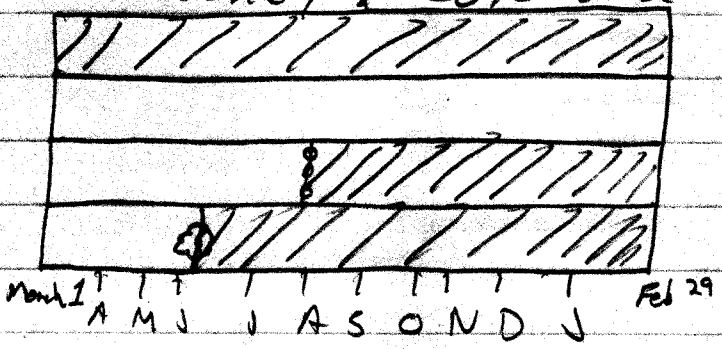


Key Agcr.

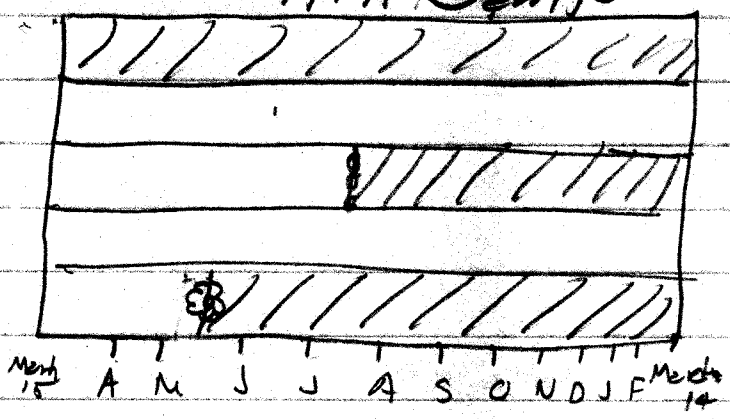
Most, Ernest

Formula

Sandy & Coleman



Hill Camp



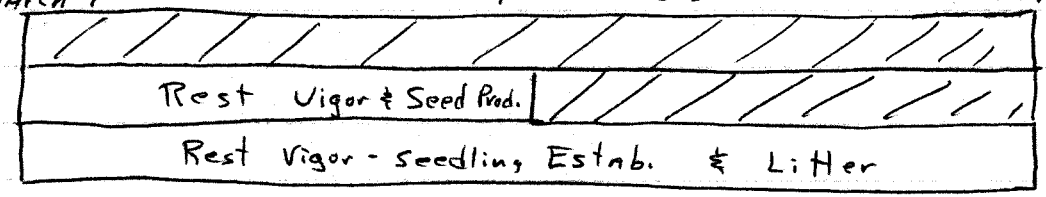
COLEMAN

6/1/72

START GROWTH
March 1st

SEED RIPE on Elymus Cinereus

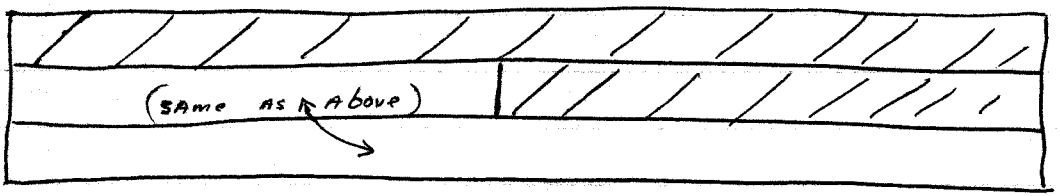
END OF SEASON 12/31



SANDY

March 1st

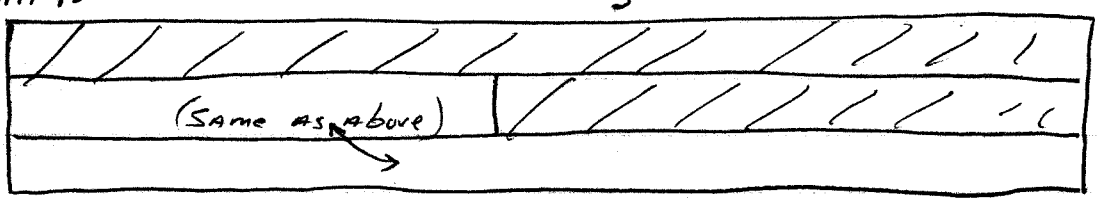
Seed Ripe on Squirreltail



HILL CAMP

April 15th

Seed Ripe on Snowberry



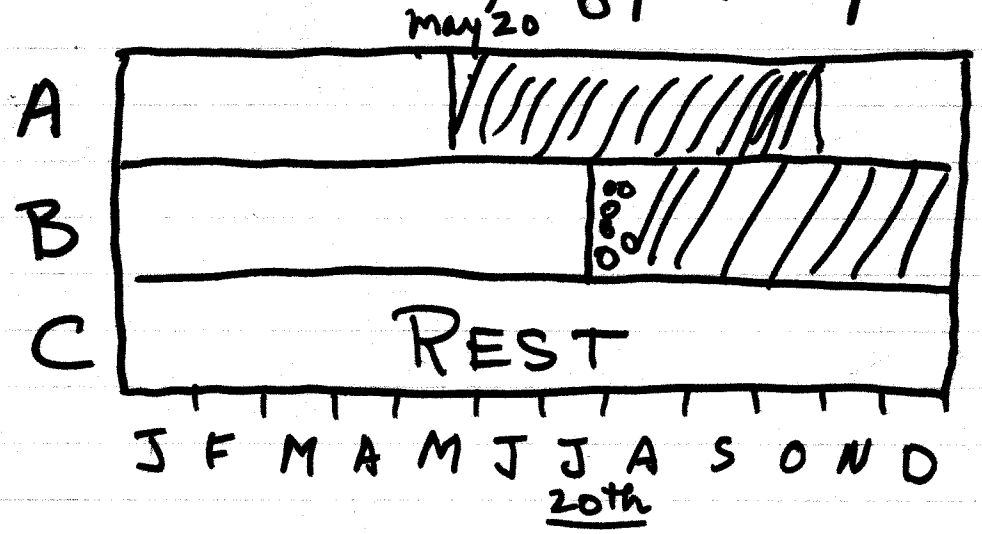
C. Majors

Grazing Formula

Harper

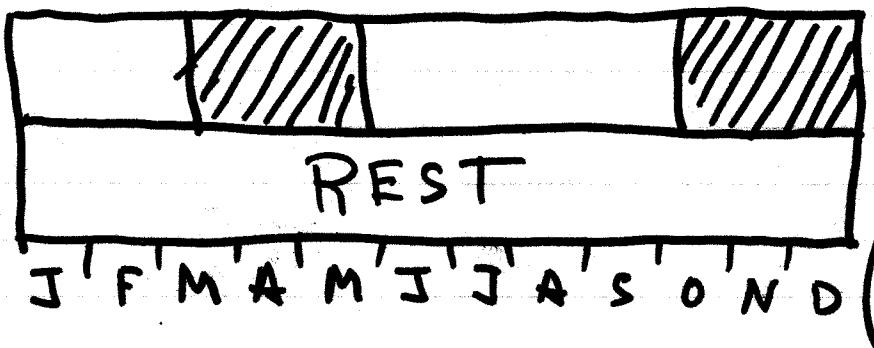
High Country (Hill Camp)

Based on Feid, Agsp & Stipa spp



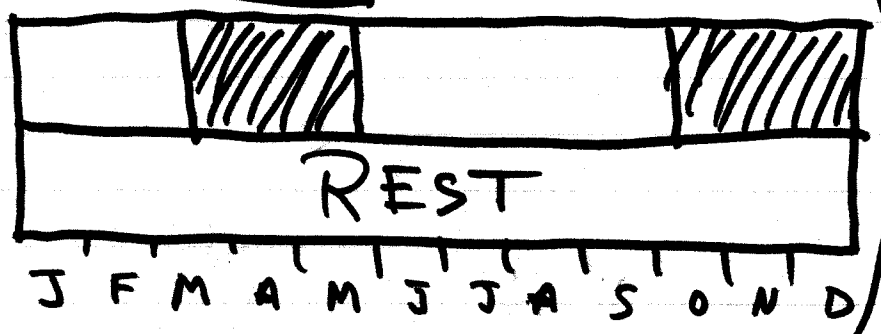
Coleman Seeding

Festuca
Sitanion
Stipa
Oryzopsis
Poa.



SANDY SEEDING

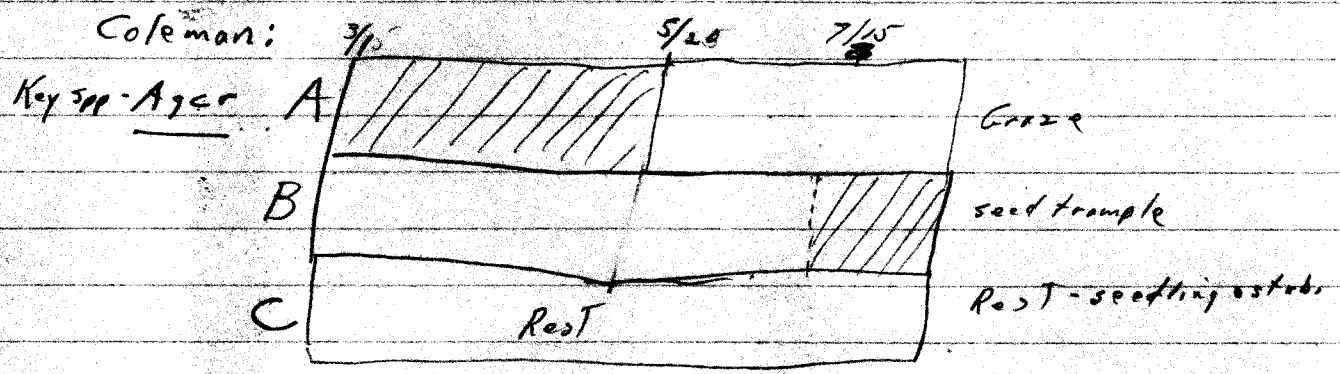
Poa
Sitanion
Stipa

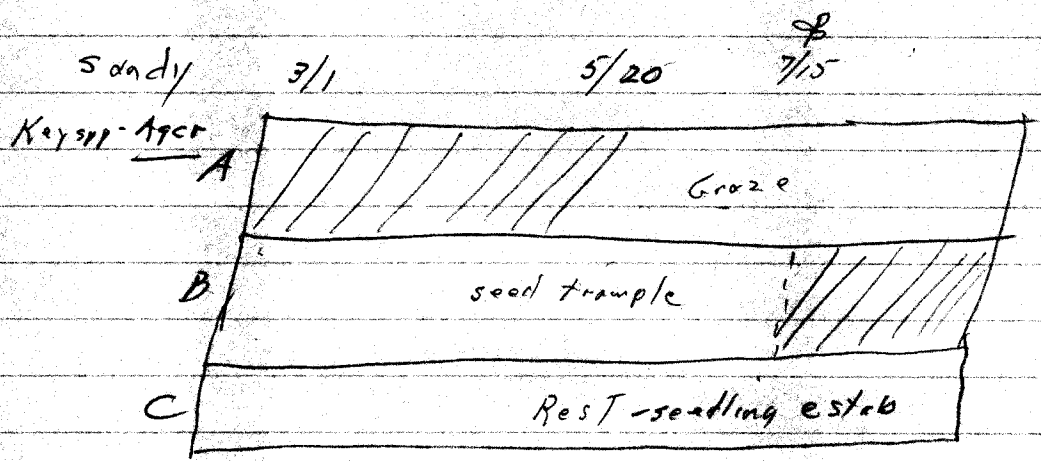


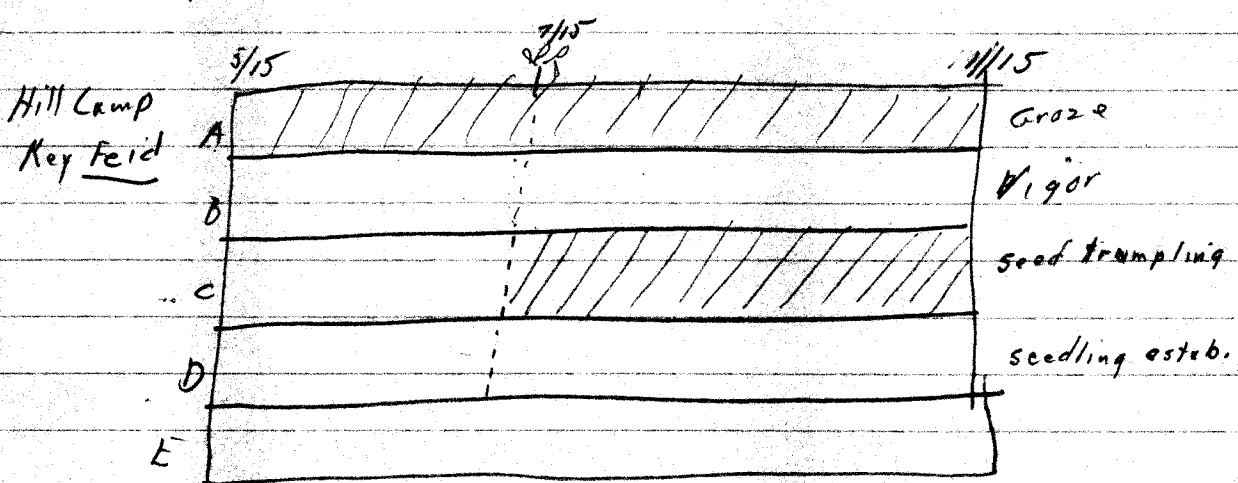
May not be getting out soon enough to allow regrowth & seed production. If not believe cattle could be moved to high country earlier. Need better seedling production in Coleman area.

Jim Brunner

Ideal Grazing Formula







Hill Camp Allotment — Arnold Bullock

Lakeview District

Grazing Formula & Plan

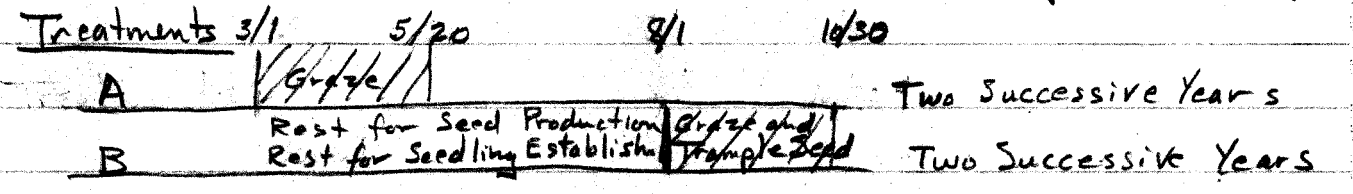
I. Two different formulae are needed for this allotment:

(a) one formula for the crested wheatgrass seedings and

(b) one formula for the native range

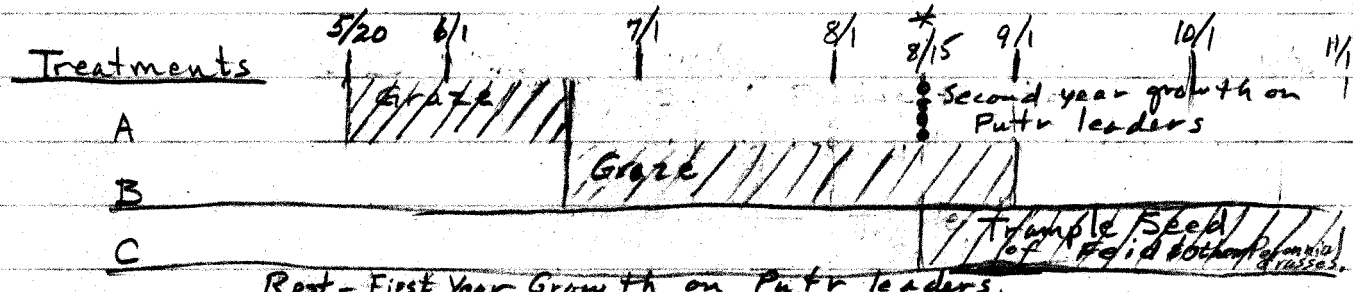
II. Ideal formula for Agropyron Cristatum:

Same treatments for both Coleman and Sandy (theoretically)



* 8/1 Seed ripe on Ager

III. Ideal formula for the native range where Idaho fescue and bitterbrush are key forage species:



* 8/15 - Seed ripe on Feid

Ideal Formulas

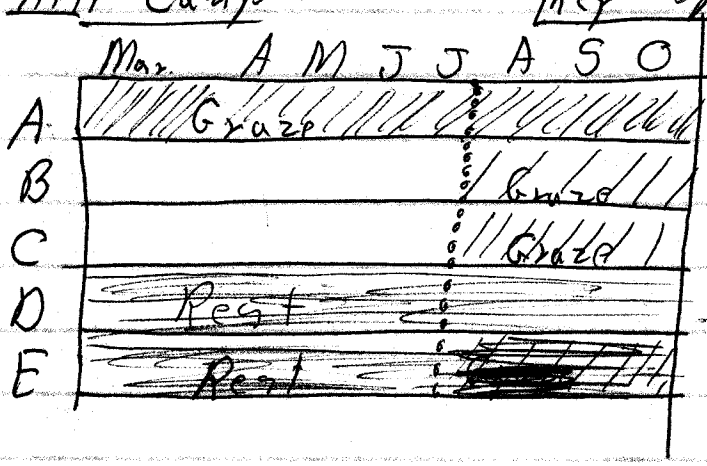
Mel Wilhelm

Grazing Formula

Hill Camp

Key Species Idaho Fescue

Seed Ripe 7-15



On farm -

Treatment A. Graze Season long for max. beef.

B Defer for vigor

C. Defer for [redacted] Seed then trample

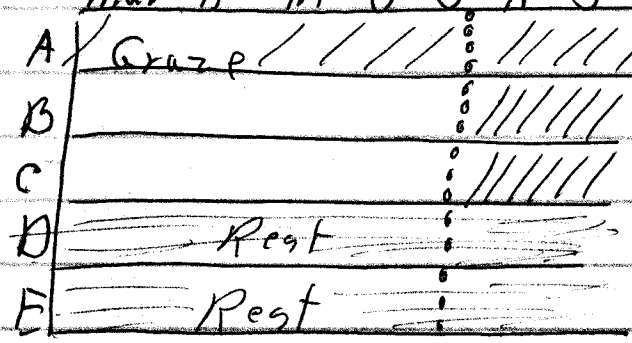
D. Rest for Seedling establishment

E [redacted] Rest for Seedling establishment

Coleman [redacted] Seeding

Key Species [redacted] Tall Wheatgrass

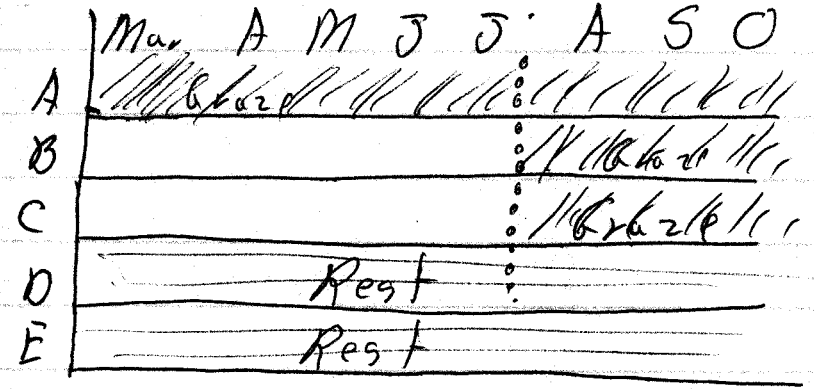
Seed ripe 7-15



Sandy Seeding

Key species: Elymus Cinereus

Seeding: 7-20



Getty

Green of this print – Don't Complete your "Bar" System ——

~~Graze every year~~

Coleman & Sandy Seeding — Ideal Formula

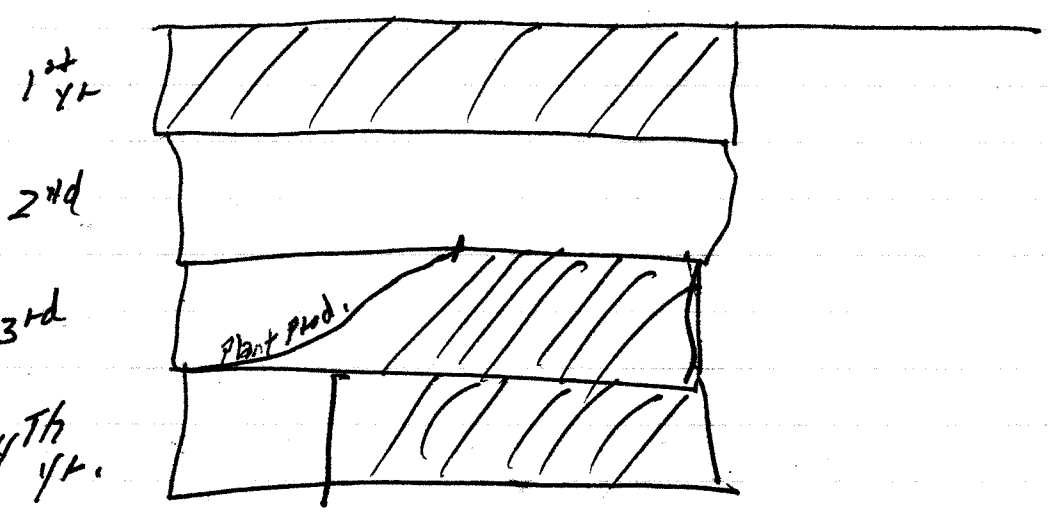
Rest 1 Full year
Graze After Agsp Seed Ripe
Graze After Seed Establishment
(Then Repeat cycle)

Hill Camp — Agsp Key Species

As a single Pasture No Fencing
Ideal – Same as seeding principles
Rest – After Seed Ripe – Seedling Establishment –
Graze in Fall – Rest then cycle

Neither is Practical for Livestock production

Treatment Formula



Management Objectives

Objectives — Most Emcs of D.

(A) 1st Priority — Protect the watershed values with an increase in ground cover & an increase in Fiberous Rooted plants over ~~top~~ wooded plants

(B) 2nd Priority - Increase Quanity & Quality of Livestock Forage

(C) 3rd - Protect & Increase Wildlife Forage & Cover

4th - Recreational satisfaction through better water - hunting - esthetic values

Hill Camp Allotment — Arnold Bullock

Lakeview District

I. Management Objectives:

B 1. Maintain vigor and provide for reproduction and increase of key forage plants
(Key forage plants are Agropyron cristatum, Festuca idahoensis, Purshia tridentata.)

A 2. Provide ground cover for soil stability.

C 3. Provide a suitable habitat and food sources for antelope, deer and sagehen.

D 4. Provide (or retain) a suitable natural environment for people interested in aesthetic values

(A = Highest priority objective.)

Hugh Harper

Objectives – produce maximum public values on sustained yield basis. Resource values involved are:

(a) 1. Watershed value – yield of pure water. Minimal erosion or no erosion.

(c) * 2. Livestock forage

(d) * 3. Wildlife habitat

(b) 4. Preserve and enhance esthetic values

5. Provide for public use and enjoyment.

* In a way these can go together & yet wildlife habitat is part of the full public values involved

Lakeview Rest Rotation Training Session 6/1/72

Coleman - Sandy - Hill Camp Allotments

A. Objectives to manage for:

A	1.	Livestock Forage (cattle)	
B	2.	Big Game Habitat (forage & cover)	Mule Deer, Antelope
D	3.	Small Game " (forage & cover)	chuckers, Quail, Sage grouse
E	4.	Watershed (H_2O production)	
C	5.	Scenic Values (Open Space Values)	

A. K. Majors

Objectives of Management

Bruce E. Portwood
Elko, Nevada

A 1. Livestock forage
B 2. Wildlife forage + cover
D 3. Recreation
E 4. aesthetics
C 5. Watershed (ground cover)

William Miller
Lake View, Oregon
Session.

Objectives

(A) 1. Provide the maximum sustained yield of the renewable resources of the management area.

approximately equal importance

(b) 2. provide livestock Forage

(c) 3. provide wildlife Habitat and forage.

(D) 4. maintain the scenic and esthetics values of the area.

(e) 5. maintain a good watershed condition

Mel Wilhelm

Objectives of Management

B 1. Maintain existing plant communities in productive state.

C 2. Produce forage for livestock and wildlife

A 3. Provide adequate plant and litter cover of soil to minimize soil erosion.

D 4. Produce cover, nesting, feeding, ect to meet wildlife needs. (grouse, ducks ect.

E 5. Improve or maintain recreation values, and scenic values.

F 6. Maintain seedings in productive state protect BLM investment.

Jim Brunner

Objectives:

overall
1. ~~Increase~~ or maintain good watershed cover
2. ~~Provide~~ livestock forage
3. ~~Provide wildlife~~ cover & food & water.

A. 1(a) Increase the taller perennial grass plants in number, to reduce overland flows
Increase litter to decrease raindrop erosion.

B 2(a) Increase Idaho fescue & Thurbers fescue
(a) Provide for plant rest to restore vigor
(b) Provide for seed development
(c) Provide for seed trampling
(d) Provide for seedling establishment
(e) Manage the cow as a tool to provide 2(d) [illegible]

~~3 Is taken care of above~~

Sheridan Hansen

Objectives of Management
Hill Camp Allotment

E - 1 - Maintain present class 1 grazing qualifications or livestock numbers.

B - 2 - Improve watershed condition and present ground cover.

A - 3 - Restore vegetation to the composition and ground cover on the site, it was before grazing was introduced.

C - 4 - Restore wildlife species and improve habitats for sage hens and antelope.

D - 5 - Meet range users needs regarding season of grazing use.

Getty

Mgmt Objectives

1. Utilize the various resources to the maximum and improve their productivities (Grazing of Livestock)
   increase

   A. Vegetation
   B. Livestock (cattle)
   C. Wildlife
   D. Esthetic Values
   E. Correlate the uses with the consumers.

2. Over-all Range in Good condition (Range type)
   A. Improve sites within
   B. Grazing Use — ~~to~~ focus on mgmt of Feid with high consideration for Browse spp. (Path)

3. Follow-up on mgmt (studies)? To make sure it's working - Allow flexibility for changes

Larry Doughty

OBJECTIVES

B 1. To maintain a sustained yield of livestock forage.
C. 2. To provide wildlife ~~forage~~ & improve habitat
A. 3 To improve watershed by increasing ground cover
D. 4. To maintain scenic values.
5.

Objectives — Marvin Hammersmark

B 1. To provide maximum livestock forage
C 2. To provide desirable habitat for wildlife
A 3. To maintain adequate ground cover for watershed protection
D 4. To maintain environmental or scenic values

Sid Houpt

Objectives

A 1. watershed protection
B 2. livestock forage production
C 3. wildlife forage production
C 4. wildlife habitat protection
D 5. recreation enhancement (hunting)
E 6. scenic value protection

Dep A 0 4 i

[redacted]

[redacted] OBJECTIVES [redacted]

A (1) - [redacted] good quality Vegetative Cover for watershed protection & improve if possible.

B (2) Maintain or increase livestock forage

C (3) Improve [redacted] sage grouse habitat

D (4) Harvest maximum forage from seedings on a sustained yield basis.

Jim Brunnen.

Plants related to management objectives

Objectives

1. Watershed
   - All vegetation ~ Tall grasses best.
2. Livestock Production
   - Idaho fescue
   - Thurbers needle & thread
   - Big bluegrasses (cusicki & nevada)
   - Wildrye
   - Crested wheatgrass & thurbers needle & thread.
3. Wildlife (Deer - Summer)
   - Big bluegrasses
   - Idaho fescue
   - Lupine & other forbs
   - Bitterbrush

   Deer winter
   - Crested wheat
   - cheatgrass, selected sagebrush.

   Antelope
   - Forbs - sagebrush - cheatgrass - ?grass.

   Sagegrouse
   - Dandelion
   - Yarrow
   - Hawksbeard
   - Fillaree
   - selected sagebrush

4. Recreation (Aesthetics & wildlife cover & feed)
   - Juniper
   - Aspen
   - Bitterbrush
   - Snowberry
   - Cheatgrass
   - Flowers.

Hill Camp Allotment Arnold Bullock

Lakeview District

1. Watershed values - soil stability

Plants important to maintain this value:

All plants important but greater stability is achieved through an increase the ~~same~~ percent composition of perennial grasses in the stand.

2. Grazing values for livestock forage:

(a) Agropyron cristatum on reseeded range pastures,

(b) Festuca idahoensis, Agropyron spicatum, Poa spp., ~~Sitanion~~ Koleria spp., Sitanion hystrix, Stipa thurberiana, Elymus triticoides, Poa secunda, Elymus cinereus Purshia tridentata, Senecio spp., Lomatium spp., Bromus tectorum on native range.

3. ~~Wildlife~~ Wildlife values:

Purshia tridentata, ~~Artemisia~~ Artemisia arbuscula, perennial grasses such as Poa secunda, Festuca idahoensis, Poa spp. (early spring use of perennial ~~grass~~ grasses by deer and antelope.)

Crepis acuminata, Senecio spp., Trifolium rothrockii, Balsamorhiza sagittata, Penstemon spp., Eriogonum spp., Agoseris spp.

4. Aesthetic Values:

Populus tremuloides, Juniperous occidentalis, Purshia tridentata, perennial forbs and grasses, sagebrush to the extent that it may occur in climax vegetation

William Miller

Lakeview Session

Management Objectives

1. Watershed
2. Livestock Forage
3. Wildlife habitat
4. Recreation Values

(1) Watershed	(2) Livestock Forage	(3) Wildlife	(4) Recreation
All perennial species	Fe. idahoensis	P. tridentata	Juniperus spp.
	stipa spp.	A. Tridentata	P. Tremuloides
	Poa species	Juniperous spp	P. Virginiana and numerous flowering forbs present, provide
	A. Cristatum		
	Essentially all species		

values to these Four objectives.

Objectives Post, Ernst D

1- Watershed
Total Plant Community

2- Livestock production
Sandy & Coleman seedings
a) Crested wheatgrass — Sagebrush
b) Cheatgrass — Rabbitbrush
c) Creeping wildrye
d) Squirreltail

Hill Comp
(a) Idaho Fescue — Bitterbrush
(b) Bluegrasses — Low Sage
(c) Bluebunch Wheatgrass — Rabbit brush
(d) Stipa's — Balsamroot
(e) Carex — Clovers
Lovegrass — Dandelion

3- Wildlife
Bitterbrush — Crested Wheatgrass
Sagebrush — Sedges
Balsamroot — Fescue
Clovers — bluegrass
Groundsel

4) - Recreation — Total Plant Community

Mel Willden

Objectives II

A1. Watershed - increase ground cover all species

B2. Provide forage for livestock & wildlife by producing enough Fe,id, Stipa species, Poa species, Sitx, Putr. Maintain seeded wheatgrasses for early spring forage.

C3. Produce cover for wildlife species.
Ducks & water birds - emergent vegetation around water holes necessary for feeding & nesting.
Sage Grouse - provide adequate Artr, Putr
Deer - Putr Antelope - forbs

D4. Maintain recreational & scenic values - all species of plants are important. Provide for diverse forms of wildlife

E5. Maintain BLM seedings to protect investment
Seeded wheatgrass important spring forage.

A.K. Majors

A. Watershed	B. Lvst. Forage	C. Wildlife	~~Recreation~~
All Species ↓	2. Stipa's	Snowberry - deer - birds	
	5. Bluebunch	Bitterbrush - deer - antelope	
	1. Idado Fescue	Juniper - deer	
	4. Giant Wildrye	Crested wg. - deer	
	3. Poa's	Hawksbeard - deer - antelope	
	Bitterbrush	Erodium - " - "	
	Snowberry	Clover - " - "	
	Hopsage	Sagebrush - " - " - birds	
	1. Crested Wheatgrass	Bud Sage - antelope - sagegrouse	
	Bluestem	Mahogany - deer	
	6. Squirreltail	Creatgrass - chuckers	
	Aspen	Sedge - sagegrouse	
	Balsamroot	Aspen - deer	
	Larkspur	Rocks - chuckers	
	Flax	Chokecherry - birds - deer	
		Buttercup - antelope	

D. Recreation

Juniper
Aspen
Evening primrose
Paintbrush
Wild Iris
Blue Bell
Grasses

Bruce E. Pottwood
Elko, Nevada

Objectives		Key spp
Watershed	—	all plants
livestock forage	—	Bluebunch wheatgrass
Wildlife habitat	—	Bitterbrush
Recreation	—	all plants

all plants } important for watershed

Bluebunch wheatgrass
Idaho fescue
Creeping wildrye
Squirrel tail
Stipa
Poa spp.
Bitterbrush
Crested wheatgrass
} important for livestock

Bitterbrush
Bud sage
Snowberry
Serviceberry
Poa spp.
Idaho fescue
Mast forbs
} important for wildlife

All plants } important for recreation

Sheridan Hansen

Management Objectives & Key Species

A-Watershed — all species

B-Wildlife

(a) Antelope — Forbs -
Green Rabbit Brush
Low Sage

(b) Sage Hens - Sage Brush species
Forbs

(c) Deer - Bitter Brush
Sage brush
Serviceberry
Snowberry
Mtn. Mahogany

C-Livestock - Idaho fescue
Poa species
Squirrel Tail
Stipa specie
Bitter Brush
Crested Wheat species

D-Recreation - Esthitics
Flowering plants
Quaking aspen
Tree species.

VALUES & VEGETATIVE SPECIES

Hugh Harper

Objectives

1. Watershed
2. Livestock forage
3. Wildlife habitat
4. Broad public values esthetics

Value & vegetative species

1. Watershed-
   Any & all veg. species that will cover all the grounds.

2. Livestock forage
   - Idaho fescue
   - bluebunch wheatgrass
   - squirreltail
   - needlegrass
   - Sandberg bluegrass
   - wildrye
   - crested wheatgrass
   - junegrass
   - low sage
   - bud sage
   - buckwheat
   - hopsage
   - quaking aspen
   - bitterbrush
   - snowberry
   - chokecherry

3. Wildlife habitat - Antelope, mule deer, sage grouse, choker partridge, song birds.

Antelope

bluebunch wheatgrass
[redacted]
Idaho fescue
junegrass
Indian rice grass
crested wheatgrass
mtn. dandelion
milkvetch
balsamroot
hawksbeard
filarea
china lettuce.
dandelion.
clover
vetch
lupine
low, bud & big sage
rabbitbrush
buckwheat
hopsage
bitterbrush
mtn mahogany.

Mule deer

same as antelope and add:
quaking aspen, rose, snowberry, elderberry
choke cherry

Sage grouse -
low sage, bud sage, big sage
perennial forbs.
mtn. dandelion, dandelion, astragalus sp.
balsamroot, hawksbeard, filaree,
Lactuca spp., clover
moist succulent vegetation that provides habitat for insects which provide the high protein necessary for chick survival.

Chukar partridge

seed producing grasses - cheat grass
Indian rice grass, poas
shrub producing cover - sage & bitterbrush
succulent vegetation that harbors insects

Vegetation for broad public values -
a mixture of vegetation
no bare ground
no eroded areas
no dead brush

S. D. HOUPT

1. Watershed
   - idaho fescue
   - ~~stipa~~
   - crested wheatgrass

2. Livestock forage
   - idaho fescue
   - ~~stipa~~
   - crested wheatgrass
   - ~~bluegrasses~~
   - ~~bitterbrush~~

3 Wildlife

~~bitterbrush~~	deer
aspen	"
service berry	"
~~snow berry~~	"
choke cherry	"
crested wheat (deer winter perennial	
forbs (Senecio, Vicia, clover, astragalus)	deer & antelope
sagebrush - sagehen - deer	sagehen

4 Recreation
   - aspen
   - forb flowers
   - juniper

Larry Doughty

1. Watershed.
   - All Species

2. Livestock Forage.
   Idaho fescue - STIPA sp.
   Ag sp. - Sitanion hystrix
   PoA spp. - Herbrush
   Crested wheatgrass

3. Wildlife.
   Perennial forbs - deer, Sagegrouse, Antelope.
   (Yarrow & Dandelion - Sagegrouse)
   Herbrush - deer & Antelope.
   Snowberry
   Chokecherry
   Aspen
   Mahogany
   } deer.
   Artemisia sp. - Sage grouse, Antelope, deer.
   Eriogonum - Antelope & deer.

4. Scenic
   Perennial Forbs - Flowers
   Aspen
   Mahogany - Juniper
   Grasses.

Marion Hammersmark

1. Watershed - all species

2. Livestock
   Idaho Fescue — Stipa Sp
   Agsp — Putr.
   Brte
   Poa
   Sibe

3. Wildlife
   Perennial forbs - deer - Antelope - sagegrouse (yarrow
   Putr
   aspen
   Mag hony
   } deer + antelope
   } deer
   Low sage - antelope - Sagegrouse
   Artemisia species - Deer - Sagegrouse

4. Scenic Values
   All Flowering species - especially forbs
   Juniper
   aspen
   Mahogany
   Grasses
   Sagebrush

Livestock - Agcr. StipA - Feid. Poa spp Ely spp. - bitterbrush

Wildlife - Forbs - bitterbrush - Sagebrush - (Carex wet) Aspen - Mahogany

Recreation - Aspen Juniper - grass (All) Mahogany

DepAOLI

Getty

A Watershed

1 Livestock – Feid, Ag Sp, Dry Meadow species, Stipa
2 Wildlife – Putr, SyAl, Aspen, Juniper, Annuals, Mahogany, sages
3 Recreation – "
4 Esthetic – Minimize artificial treatments & Development

All Browse species

Recreation – Takes in wildlife & Esthetic values (?)
Artifacts in the area to consider
Access – to what extent?

(Quality
Maximum Development of facilities only to the extent needed to achieve the objectives.

Livestock (Grazing Mgm't) – Economical and profitable to the user or you lose your tools to do the job.

Range Management – geared to the key species desired – Short sage sites with POAs may require special use (mgmt) to maintain & improve.

Management methods

Hill Camp Allotment — Arnold Bullock
Lakeview District

Management Methods for Increasing Ground Cover

1. Apply a grazing formula and system to increase the perennial grasses with their fibrous root system where a sufficient stand of perennial grasses exist to provide a seed source.
The grazing system must (a) allow these plants opportunity to maintain themselves (b) allow key plants opportunity to produce viable seed and (c) opportunity for seedling establishment.

2. Seed tillable sites where ~~insufficient~~ there is not a sufficient stand of perennial grasses to produce seed to reestablish a good plant cover in a reasonable period of time.

Don
Tretty

To obtain maximum cover for Watershed Purposes
Management Methods

A. Utilize (Graze) with a system which will maintain and improve Vigor - Health of the Vegetation

B. Implement improvements and treatment necessary to execute the system of grazing necessary for vigor of plants increasing Vegetative Density > Reproduction.

C. If a choice, Class of Livestock use
Possible to rotate class of stock use?

D

Management Methods

1- Allow All Existing Vegetation To go To Seed

2- Graze Heavy After Seed is Ripe

3- Rest To Allow Seedlings To develop .

DePAOLI

Management Methods. Larry Doughty

1. Livestock grazing.

Resting - Rest for vigor & seedproduction &

+ Seedling Establishment

Grazing - for Animal production & Seed Trampling.

Marvin Hammermeister

Watershed

Management Methods

1. Livestock Grazing

2. Provides for rest of seed production, seedling establishment, seed trampling & maximum forb production. Increase vigor.

3.

Sid Houpt

Management Methods

1. increase existing plant vigor
2. increase ground cover by promoting reproduction of all species
3. allow for establishment of reproduction

Management Methods

Harper

How are we going to thicken vegetation

Management method

Livestock grazing management so that the ~~desirable~~ desired plants have the opportunity to produce seed, establish ~~new~~ new seedlings, produce litter, replenish root reserves, and restore their vigor. A rest-rotation grazing formula and system will be formulated ~~to~~ that will ~~use~~ use these objectives as criteria in constructing the grazing mgt. system.

Jim Brunner

Management Methods

Watershed

How thicken good watershed protection plants.

1. Rest-rotation grazing system

6/1/72
@Majors

Management Method

How to thicken vegetation?

Restore Vigor.
Plant Seed.
Allow seedling developement.

A. Do this by manipulating livestock grazing.

Sheridan Hansen

Management Methods
Means of Thickening vegetation

needed
1 - Produce seed
2 - Produce litter (fertility)
3 - Plant seed
4 - Allow plant establishment

This can all be accomplished by using livestock and a Rest Rotation grazing system -

William Miller
Lakeview session

Management Methods

1. Rest for vigor or plant needs, litter accumulation and maintain soil fertility
2. Rest for seed production, and seedling establishment
3. Graze to trample or implant seed
4. Graze to stimulate tillering and vegetative reproduction

Mel Williams

Management Method III

Watershed - manipulation — Watershed cover will increased by livestock grazing. (R.R.)

Livestock — Rest rotation management

Wildlife — Same

Recreation — Same

management methods Bruce E. Pottwood

1. manipulate livestock grazing to provide for:
   a. vigor through rest
   b. seed production through improved vigor & rest
   c. seed trampling by livestock to plant seed
   d. seedling establishment through rest

Management Method Ernest Most

— Thicken Vegetation —

Use Livestock in Rest Rotation

1- Rest plants for vigor & Litter
2- Graze after seed ripe to plant seeds
3- Rest for seedling establishment
4- Graze [illegible]

→ Satisfy Plant requirements for Continuous sustained yield

Advance Sheet
Subject To Correction

CALDERWOOD RESERVOIR QUADRANGLE
OREGON – LAKE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Advance Sheet
Subject To Correction

MUD LAKE RESERVOIR QUADRANGLE
OREGON – LAKE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

Reproduce within these areas

SANDY

COLEMAN

HILL CAMP

Antelope Flat

SCALE

LONG LAKE

MUD LAKE

FAIRY FLAT

CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U S GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D C 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION

Primary highway, hard surface — Light-duty road, hard or improved surface
Secondary highway, hard surface — Unimproved road
Interstate Route · U S Route · State Route

Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography by photogrammetric methods from aerial photographs taken 1967. Field checked 1968
Horizontal projection 1927 North American datum
10,000-foot grid based on Oregon coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 11, shown in blue
Dashed red lines indicate selected fence lines

COLEMAN LAKE, OREG.
N4200—W11945/7.5
1968
AMS 2000 II SE—SERIES V882

CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U S GEOLOGICAL SURVEY DENVER COLORADO 80225 OR WASHINGTON, D C 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION

Secondary highway, hard surface — All weather, Light duty road, all weather, improved surface
Unimproved road, fair or dry weather
State Route

BLIZZARD GAP, OREG.
N4200—W11937.5/7.5
1968
AMS 2000 II SW—SERIES V882

Use Area Boundary

Proposed Travel Route

SANDY SEEDING

Scientific Name	Common Name	Starts Growth	Flowers	Seed Ripe	Regrowth if Grazed to:
GRASSES & GRASSLIKE PLANTS					
Agropyron cristatum	Crested wheatgrass	3/1	6/5	7/10	5/20
" spicatum	Bluebunch wheatgrass	3/15	6/10	7/15	4/20
Bromus tectorum	Cheatgrass	3/10	5/15	6/10	
Elymus cinereus	Giant wildrye	3/20	6/15	7/20	5/1
Poa secunda	Sandbergs bluegrass	3/1	5/10	6/25	4/1
Sitanion hystrix	Squirreltail	3/1	6/5	7/10	5/10
Stipa spp. (thruberiana	Needlegrass	3/10	6/10	7/10	5/1
FORBS					
	Annuals - dry				
Delphinium spp.	Larkspur	3/10	5/5	6/10	
Lepidium spp.	Peppergrass				
Lomatium spp.	Biscuitroot-carrot-top				
Lupinus spp.	Lupine		6/1	7/15	
Polygonum Douglasi	Knotweed				
Salsola kali tenuifolia	Russian thistle				
Sisymbrium altissimum	Tumblemustard				
BROWSE					
Artemesia arbuscula	Low sage	4/1		9/15 ?	
" tridentata	Big sage	4/1		10/1 ?	
Atriplex confertifolia	Shadscale			10/1 ?	
Chrysothamnus vicidiflorus	Rabbitbrush (green)	4/20	8/1	10/15	
Eriogonium spp.	Shrubby buckwheat			7/20	
Grayia spinosa	Hopsage	4/1		7/15	
Juniperus spp.	Juniper				NOT EATEN
Sarcobatus vermiculatus	Greasewood	4/15			
Tetradymia spp.	Horsebrush				

HILL CAMP GRAZING USE

Basin — 7,200 acres

Year	Season	AUM Use	Rate
1968	4/8 - 5/17	376	19.0 A./AUM
1969	7/10 - 9/20	175	41.2 A./AUM
1970	5/17 - 7/18	764	9.4 A./AUM
1971	---- RESTED (except leak & drift)		
1972	---- Scheduled for Rest -----		

West — 11,300 acres

Season	AUM Use	Rate
7/2 - 10/5	2,314	4.9 A./AUM
7/10 - 11/4	1,783	6.3 A./AUM
6/14 - 11/1	1,930	5.9 A./AUM
7/15 - 11/15	2,016 -	5.6 A./AUM
7/15 - 11/15	(Scheduled)	

NE — 4,700 acres

Year	Season	AUM Use	Rate
1968	---	Rested	---
1969	5/20 - 8/21	1,400	3.4 A./AUM
1970	7/19 - 11/1	600	7.8 A./AUM
1971	---RESTED--- (Some leak)		
1972	5/16 - ? (scheduled)		

SE — 4,700 acres

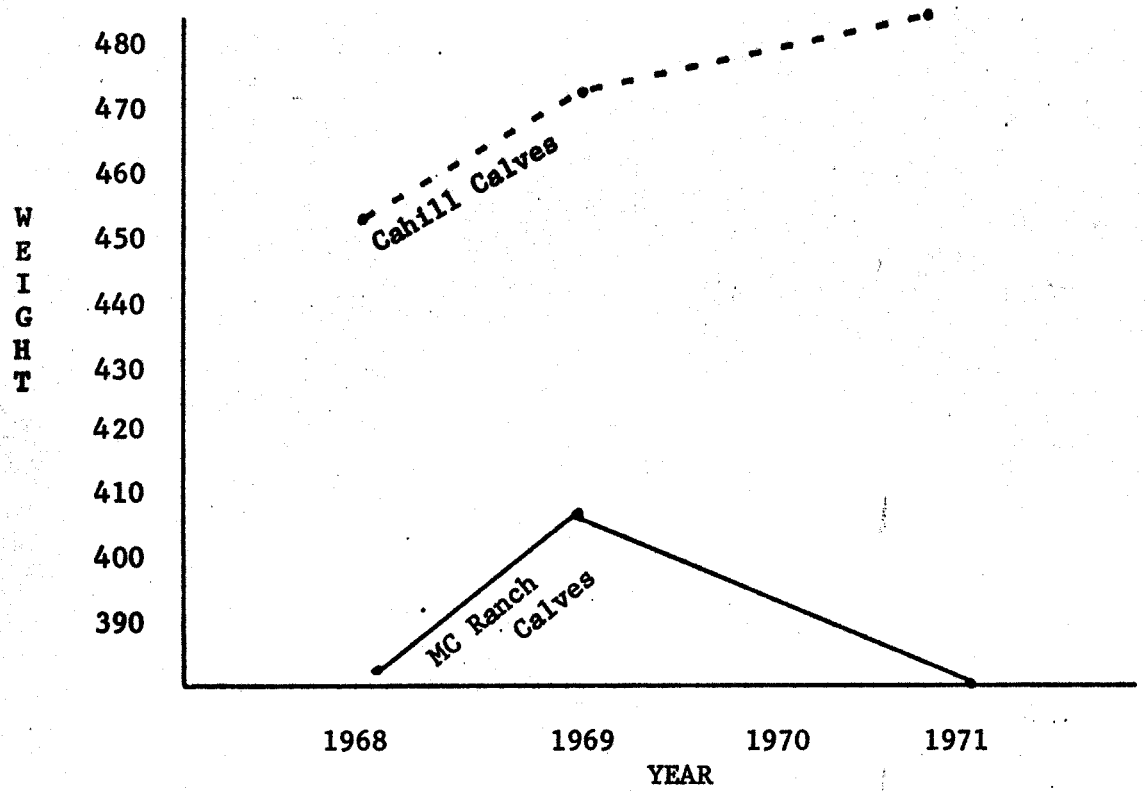
Season	AUM Use	Rate
5/8 - 7/15	1,292	3.7 A./AUM
8/23 - 11/4	250	19.0 A./AUM
---- RESTED ----- (Some Drift)		
5/20 - 8/1 +	1,334	3.6 A./AUM
8/15 - 11/15	(scheduled)	

All Pastures — 27,900 acres

Year	Season	AUM Use	Rate	Remarks
1965	4/16 - 9/30	2,705	10.3 A./AUM	-- Licensed use since 1960
1966	4/16 - 9/30	3,363	8.3 A./AUM	-- Total Area Used
1967	4/10 - 9/30	3,608	7.8 A./AUM	-- " " "
1968	4/08 - 10/5	3,982	7.0 A./AUM	-- Grazing system begin. One
1969	5/20 - 11/4	3,608	7.8 A./AUM	pasture rested each year.
1970	5/17 - 11/1	3,294	8.5 A./AUM	--- Some cattle drifted off early.
1971	5/20 - 11/15+	3,350	8.36 A./AUM	--- " " " " " Some stayed later than licensed.
1972	5/16 - 11/15	?	(scheduled)	

Four Year Trend of Calf Weights - Hill Camp

	MC Calves			Cahill Calves		
	Number	Weight	Date	Number	Weight	Date
1968 1/	390	383	8-6	140	450	8-6
1969	146	407	8-22	69	469	8-22
1970	- - - - - - -	NO DATA COLLECTED		- - - - - - - - -		
1971 2/	412	379	8-26	174	482	8-26



1/ One of driest summers on record, but MC calves were oldest winter calves they had.

2/ MC calves were younger group than they had in 1968 & 1969; Cahill group included 79 light yearlings.

IN REPLY REFER TO:

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
P. O. Box 151
Lakeview, Oregon

DATE: June 12, 1970

TO : Growth-In-Dark Study File

FROM : A.K. Majors

SUBJECT: 1969-1970 Comparison of Study Results

Following is grams per plant of available root reserve, by each of the three species measured for each of the three grazing treatments, as measured for each of the three years.

Year	Grazing Treatments-Rate's	Grams/Plant by Species: Stipa		Bluebunch		Fescue	
			% of Control		% of Control		% of Control
	Spring Area-Season Long:						
1968	5/18-10/5-3.8a/AUM	0.27	23 %	0.25	12 %	0.09	14 %
1969	5/20-11/4-3.4a/AUM	0.22	59 %	0.26	33 %	0.38	95 %
1970	7/16-11/1-5.9a/AUM	0.38	81 %	0.80	105 %	0.45	59 %
	West Pasture-Deferred:						
1968	7/2-10/5-4.8a/AUM	0.77	66 %	0.78	38 %	0.39	59 %
1969	7/10-11/4-6.3a/AUM	0.39	105 %	0.76	95 %	0.59	198 %
1970	6/14-11/1-5.9a/AUM	0.40	85 %	0.85	112 %	0.41	54 %
	NE Pasture-Rest Rotation:						
1968	Rested - None	1.17	100 %	2.08	100 %	0.66	100 %
1969	5/20-8/21-3.4a/AUM	.28	76 %	.70	88 %	0.40	103 %
1970	7/19-11/1-7.8a/AUM	0.41	87 %	1.04	137 %	0.47	62 %
	CONTROL						
1968	Rested	1.17		2.08		0.66	
1969	Rested	.37		.80		.40	
1970	Rested	0.47		0.76		0.76	

Attachment to Form 4412-19

BUREAU OF LAND MANAGEMENT
Lakeview District

Date 7/26/~~69~~66

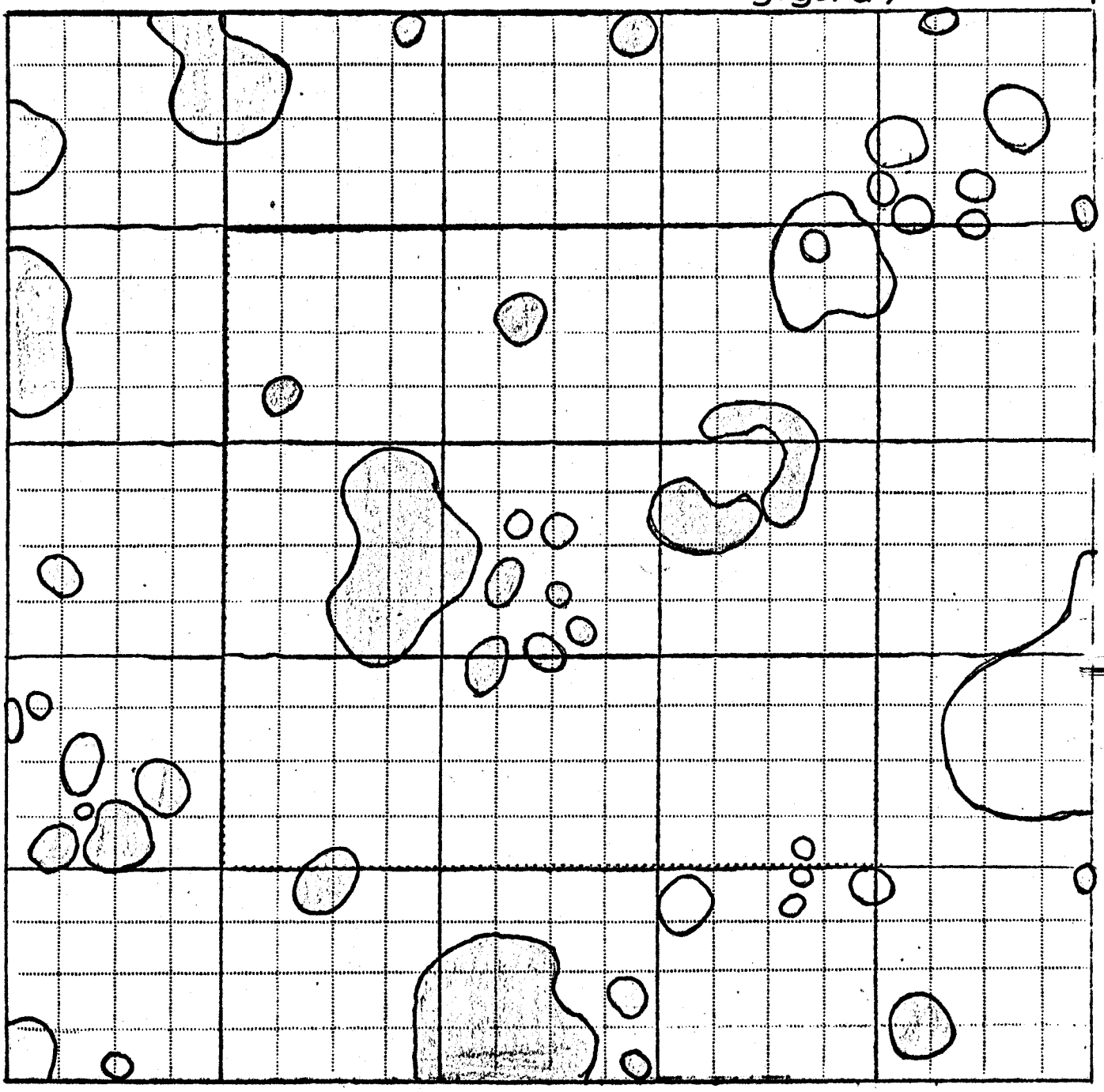
Plot Identification PT-401

Recorder Parker

A

Post

(copied 7/11/69
Wangsgard)



Attachment to Form 4412-1

BUREAU OF LAND MANAGEMENT
Lakeview District

Date 7/11/69

Plot Identification PT 401

Recorder Vangsgard

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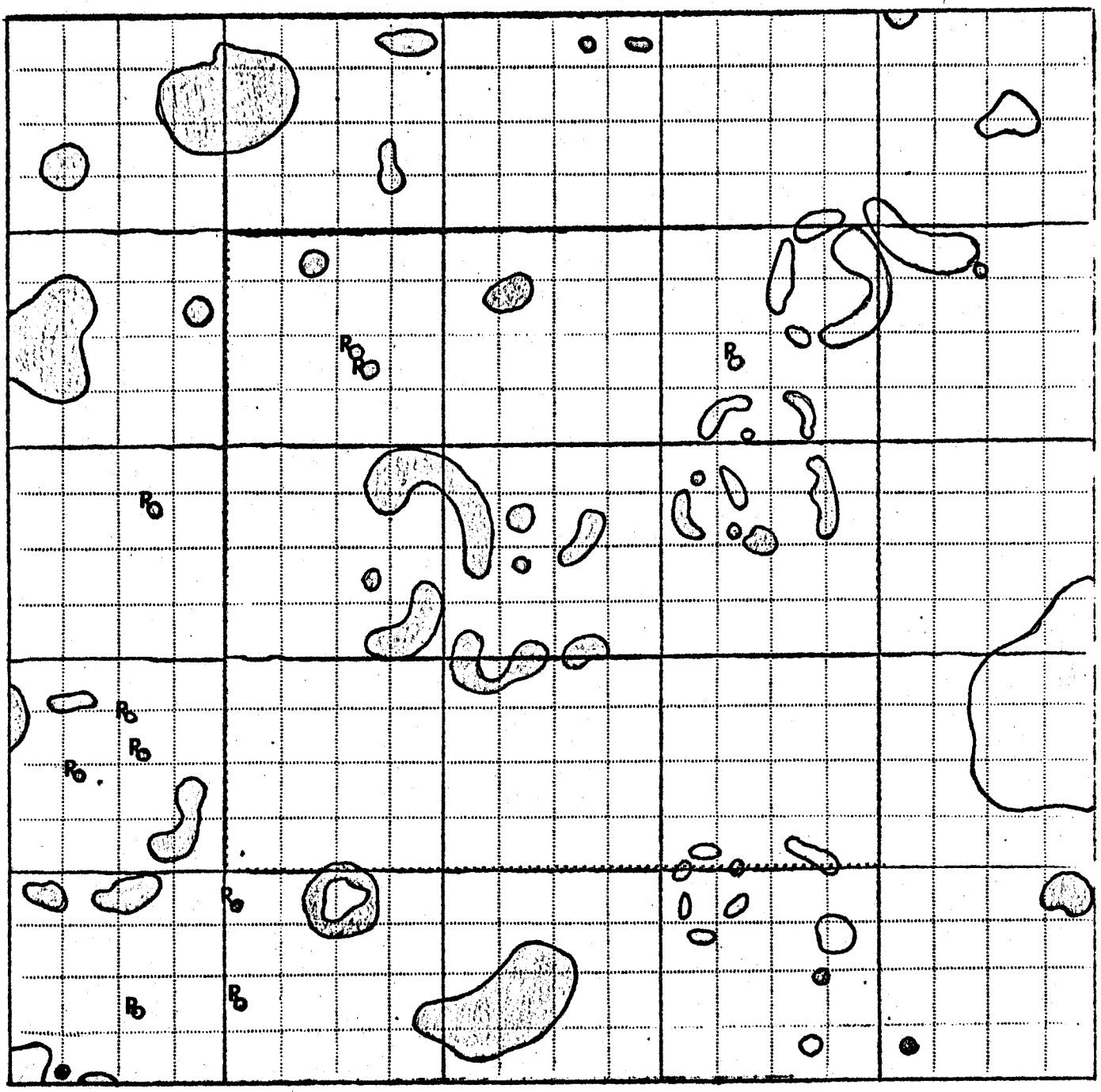


HILL CAMP GRAZING USE

Basin — 7,200 acres

Year	Season	AUM Use	Rate
1968	4/8 - 5/17	376	19.0 A./AUM
1969	7/10 - 9/20	175	41.2 A./AUM
1970	5/17 - 7/18	764	9.4 A./AUM
1971	---- RESTED (except leak & drift)		
1972	---- Scheduled for Rest -----		

West — 11,300 acres

Season	AUM Use	Rate
7/2 - 10/5	2,314	4.9 A./AUM
7/10 - 11/4	1,783	6.3 A./AUM
6/14 - 11/1	1,930	5.9 A./AUM
7/15 - 11/15	2,016	5.6 A./AUM
7/15 - 11/15	(scheduled)	

NE — 4,700 acres

Year	Season	AUM Use	Rate
1968	---	Rested	---
1969	5/20 - 8/21	1,400	3.4 A./AUM
1970	7/19 - 11/1	600	7.8 A./AUM
1971	---- RESTED ---- (some leak)		
1972	5/16 - ? (scheduled)		

SE — 4,700 acres

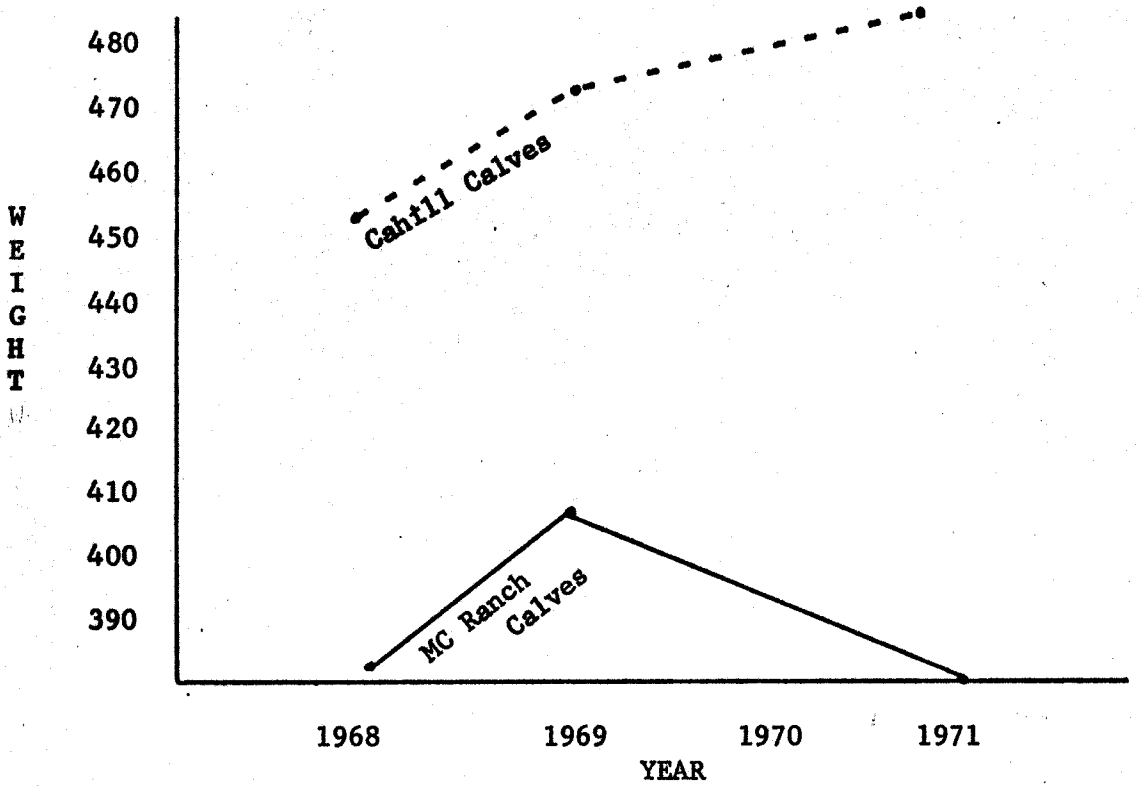
Season	AUM Use	Rate
5/8 - 7/15	1,292	3.7 A./AUM
8/23 - 11/4	250	19.0 A./AUM
---- RESTED ----- (Some Drift)		
5/20 - 8/1 +	1,334	3.6 A./AUM
8/15 - 11/15	(scheduled)	

All Pastures — 27,900 acres

Year	Season	AUM Use	Rate	Remarks
1965	4/16 - 9/30	2,705	10.3 A./AUM	--- Licensed use since 1960
1966	4/16 - 9/30	3,363	8.3 A./AUM	--- Total Area Used
1967	4/10 - 9/30	3,608	7.8 A./AUM	--- " " "
1968	4/08 - 10/5	3,982	7.0 A./AUM	--- Grazing system begin. One pasture rested each year.
1969	5/20 - 11/4	3,608	7.8 A./AUM	
1970	5/17 - 11/1	3,294	8.5 A./AUM	--- Some cattle drifted off early.
1971	5/20 - 11/15+	3,350	8.36 A./AUM	--- " " " " " Some stayed later than licensed.
1972	5/16 - 11/15	?	(scheduled)	

Four Year Trend of Calf Weights - Hill Camp

	MC Calves			Cahill Calves		
	Number	Weight	Date	Number	Weight	Date
1968 1/	390	383	8-6	140	450	8-6
1969	146	407	8-22	69	469	8-22
1970	- - - - - -		NO DATA COLLECTED	- - - - - - - -		
1971 2/	412	379	8-26	174	482	8-26



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IN REPLY REFER TO:

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
P. O. Box 151
Lakeview, Oregon

DATE: June 12, 1970

TO : Growth-In-Dark Study File

FROM : A.K. Majors

SUBJECT: 1969-1970 Comparison of Study Results

Following is grams per plant of available root reserve, by each of the three species measured for each of the three grazing treatments, as measured for each of the three years.

Year	Grazing Treatments-Rate's	Grams/Plant by Species: Stipa	Bluebunch	% of Control	Fescue	% of Control
	Spring Area-Season Long:					
1968	5/18-10/5-3.8a/AUM	0.27	0.25	12 %	0.09	14 %
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	West Pasture-Deferred:					
1968	7/2-10/5-4.8a/AUM	0.77	0.78	38 %	0.39	59 %
1969	7/10-11/4-6.3a/AUM	0.39	0.76	95 %	0.59	148 %
1970	6/14-11/1-5.9a/AUM	0.40	0.85	112 %	0.41	54 %
	NE Pasture-Rest Rotation:					
1968	Rested - None	1.17	2.08	100 %	0.66	100 %
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Attachment to Form 4412-19

BUREAU OF LAND MANAGEMENT
Lakeview District

Date 7/26/~~68~~66

Plot Identification PT-401

Recorder Parker

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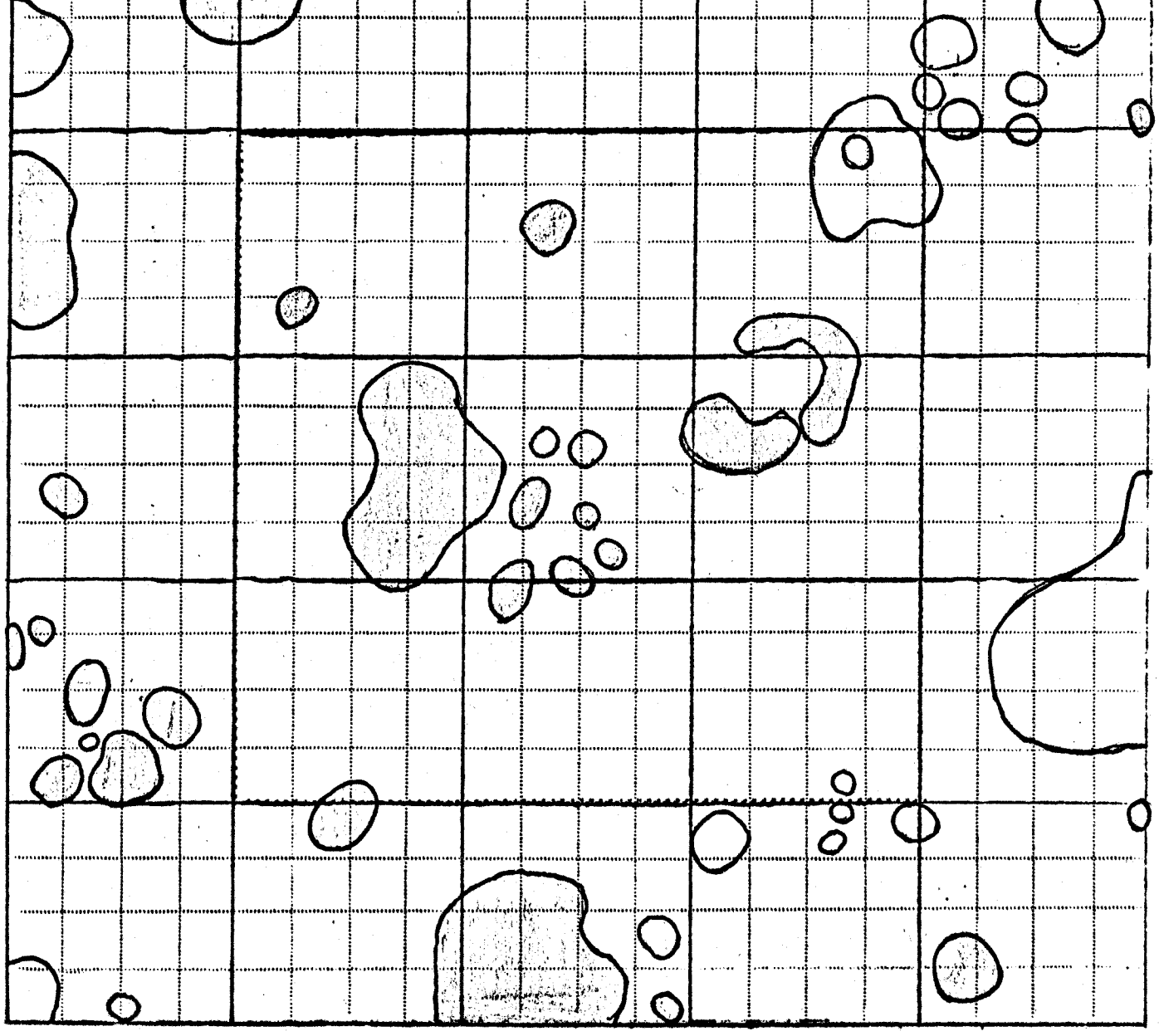
Wangsgard)



Attachment to Form 4412-1

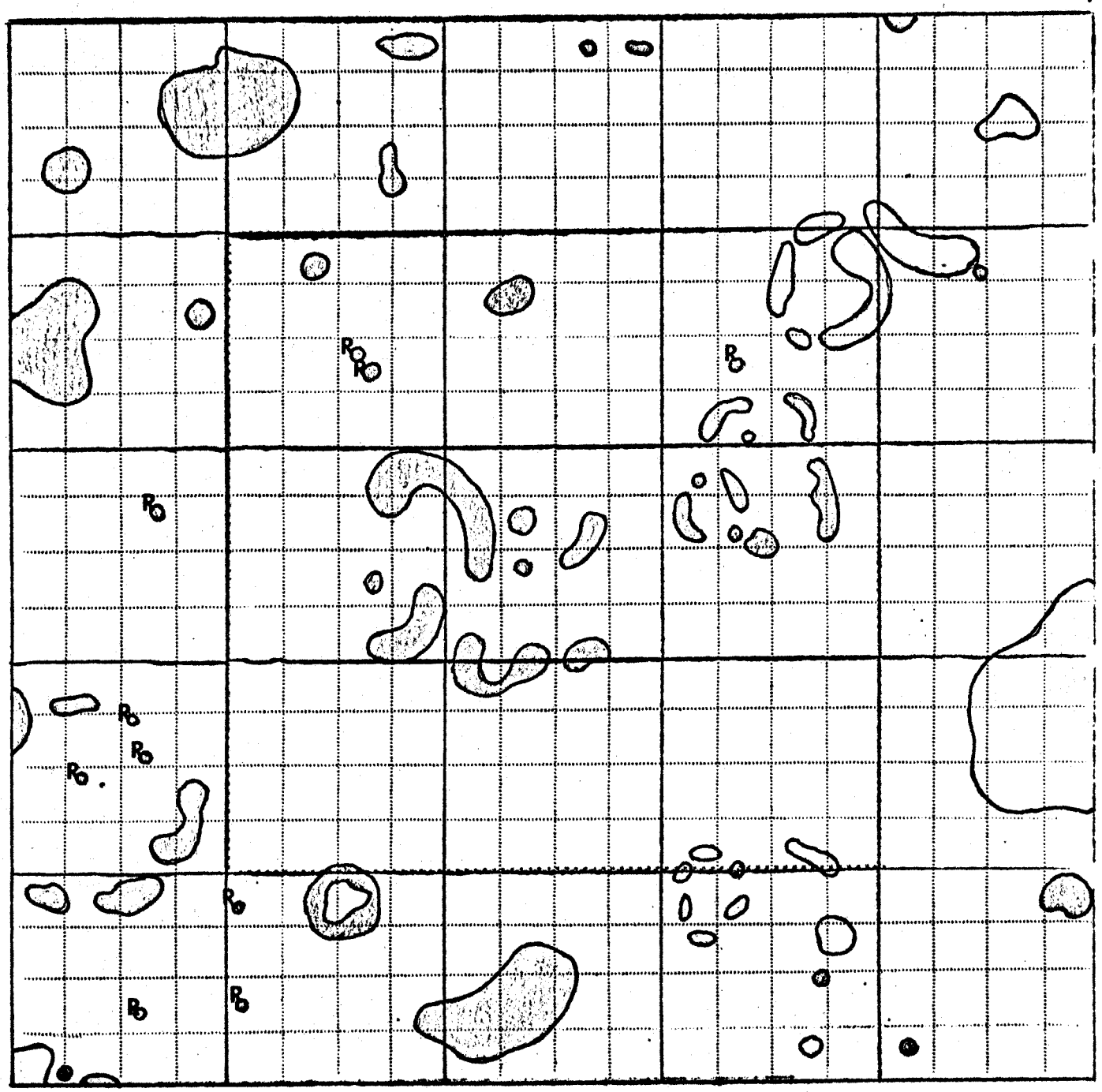
BUREAU OF LAND MANAGEMENT
Lakeview District

Date 7/11/69

Plot Identification PT 401

Recorder Vangsgard

Post



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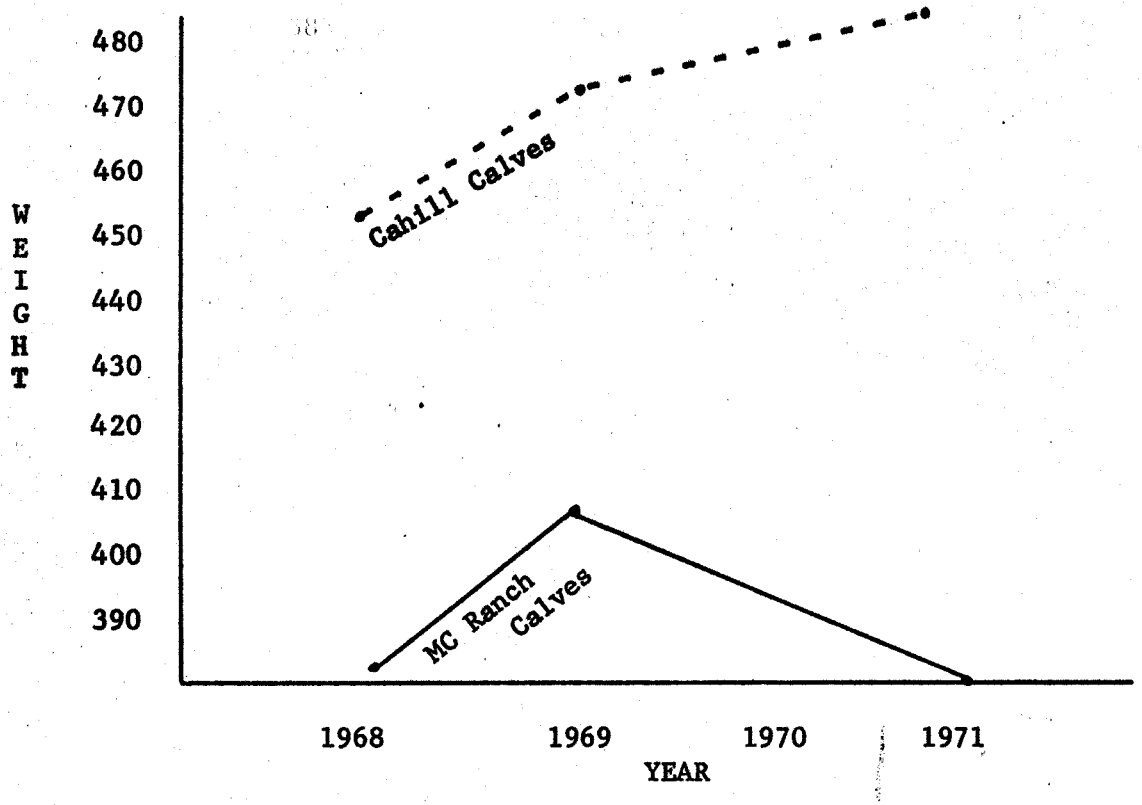

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Memorandum

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P. O. Box 151
Lakeview, Oregon

DATE: June 12, 1970

TO : Growth-In-Dark Study File

FROM : A.K. Majors

SUBJECT: 1969-1970 Comparison of Study Results

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Attachment to Form 4412-19

BUREAU OF LAND MANAGEMENT
Lakeview District

Date 7/26/~~66~~66

Plot Identification PT-401

Recorder Parker

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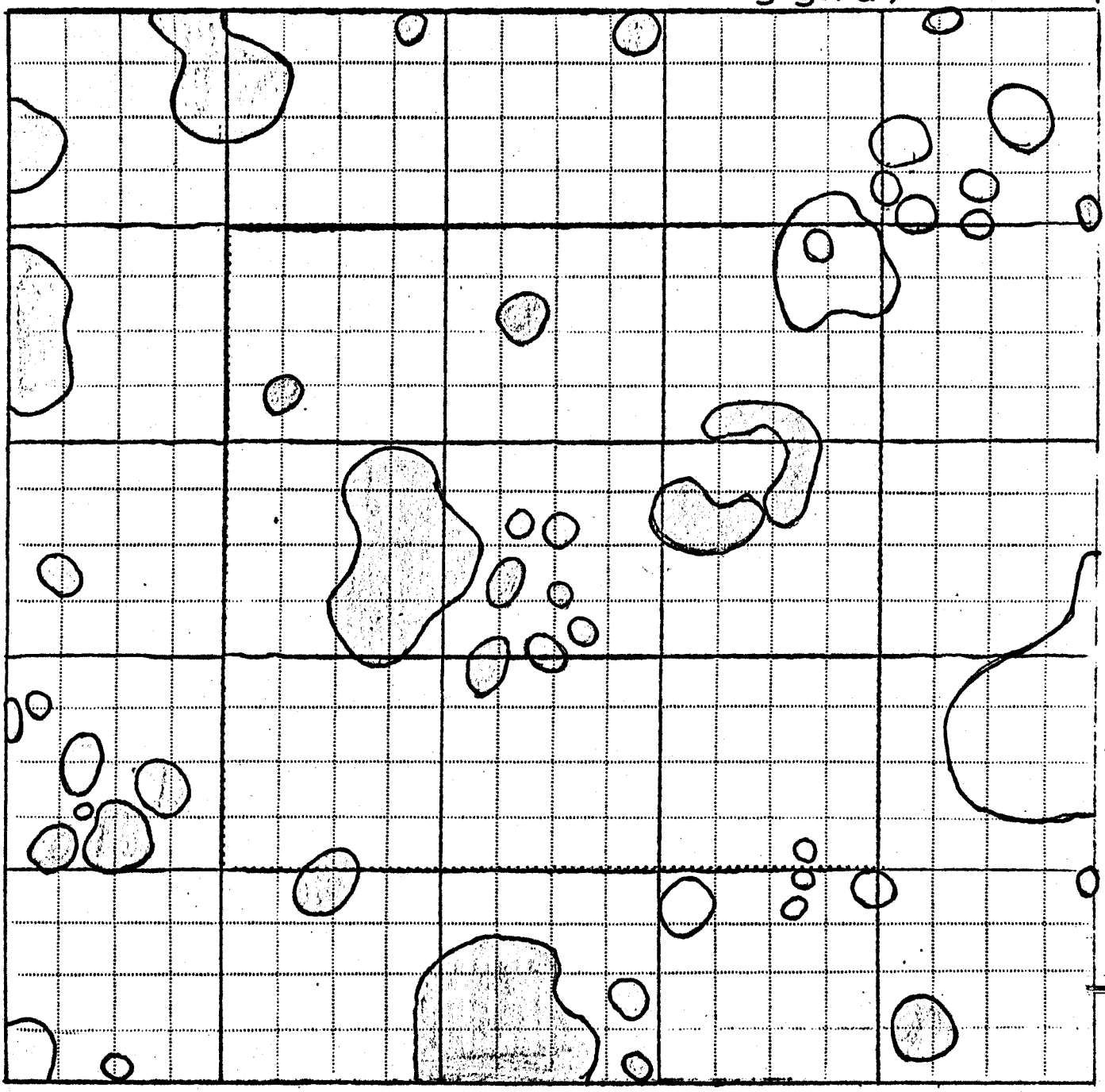
Wangsgard)



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BUREAU OF LAND MANAGEMENT
Lakeview District

Date 7/11/69

Plot Identification PT 401

Recorder Wangsgard

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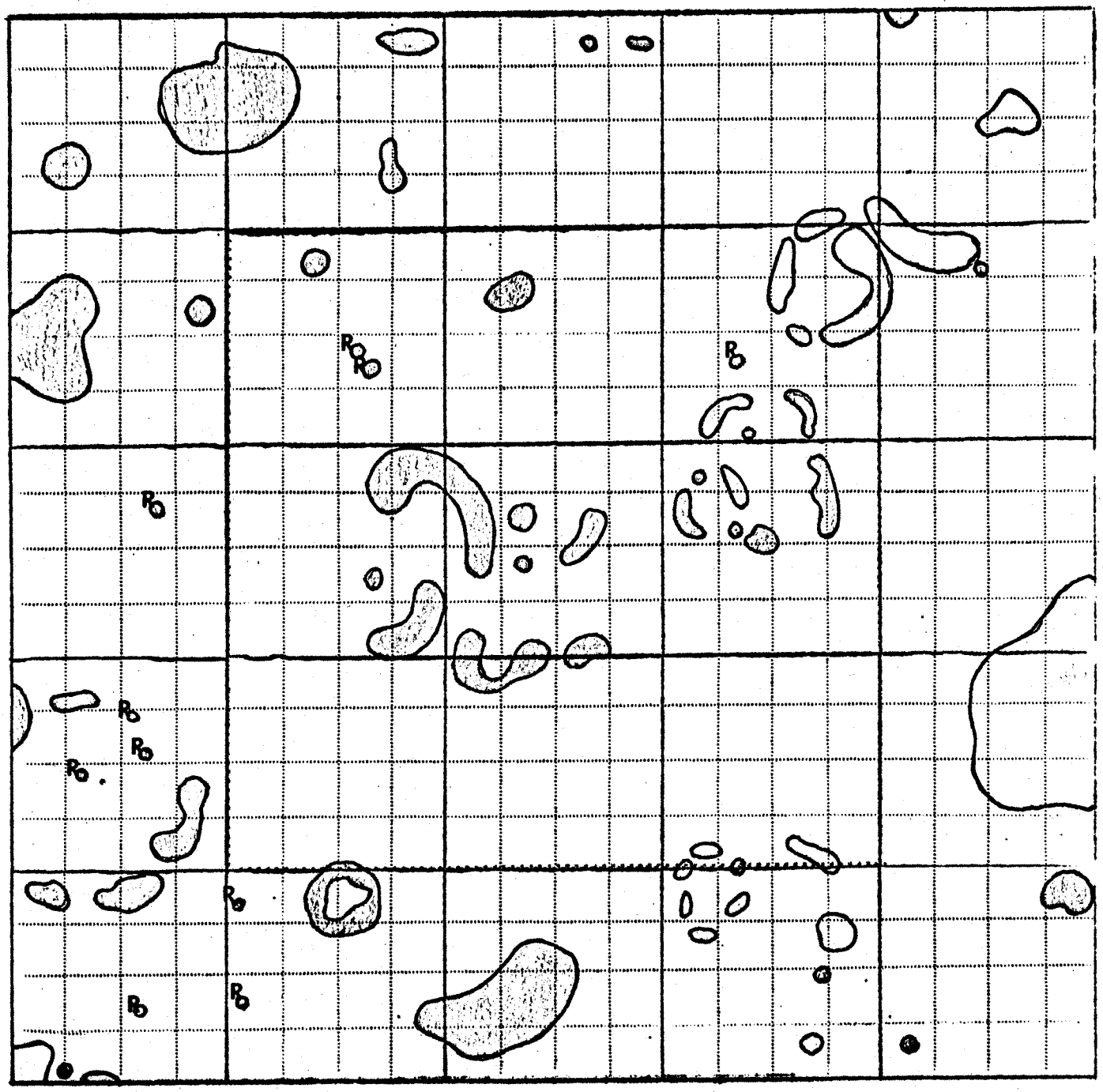

HILL CAMP

Scientific Name	Common Name	Starts Growth	Flowers	Seed Ripe	Regrowth if Grazed to:
GRASSES & GRASSLIKE PLANTS					
Agropyron spicatum	Bluebunch wheatgrass	3/15	6/10	7/20	4/15
Bromus tectorum	Cheatgrass	3/15	5/15	6/10	
Carex spp.	Sedge		5/15	6/25	
Elymus cinereus	Giant wildrye	3/25	6/20	8/1	5/15
" triticoides	Creeping wildrye	3/20	6/15	7/20	5/15
Festuca idahoensis	Idaho fescue	3/10	6/10	7/15	5/1
" octoflora	Six-weeks fescue			6/15	
Hordeum jubatum	Foxtail barley			7/5	5/1
Juncus spp.	Rush				
Koeleria cristata	Junegrass			7/10	
Oryzopsis hymenoides	Indian ricegrass	3/25		7/15	4/15
Poa cusickii	Cusick bluegrass	3/15	5/20	7/5	4/10
" nevadensis	Nevada bluegrass	3/15	5/25	7/10	5/1
" pratensis	Kentucky bluegrass	3/15	5/25	7/15	5/1
" secunda	Sandbergs bluegrass	3/1	5/5	7/1	4/10
Sitanion hystrix	Squirreltail	3/1	6/5	7/15	5/10
Stipa comata	Needle-and-thread	3/15	6/15	7/15	5/1
Stipa spp. (thruberiana)	Needlegrass	3/5	6/10	7/15	5/1
Stipa elmeri	Needlegrass	3/20	6/20	7/20	5/15
FORBS					
Achillea Millefoilium	Common yarrow			8/1	
Agoseris spp.	Mountain dandelion				
Allium spp.	Wild onion				
	Annuals - dry				
Aster spp.	Aster			9/1	
Astragalus spp.	Milkvetch - Loco				
Balsamorhiza hookerii	Balsamroot		5/20	6/20	
Castilleja spp.	Indian paintbrush		5/20		
Circium spp.	Thistle				
Crepis spp.	Hawksbeard				
Delphinium spp.	Larkspur	3/10	5/10	6/10	
Erigeron spp.	Fleabane (Wild Daisy)		5/20		
Erodium cicutarium	Filaree-Storksbill		5/10		
Helianthus spp.	Sunflower		6/10		

HILL CAMP

Scientific Name	Common Name	Starts Growth	Flowers	Seed Ripe	Regrowth if Grazed to:
FORBS (Cont.)					
Iris spp.	Wild iris				
Lactuca spp.	China lettuce				
Lepidium spp.	Peppergrass				
Lomatium spp.	Biscuitroot-carrot-top			7/1	
Lupinus spp.	Lupine			7/20	
Melitotus spp.	Sweet clover				
Oenothera spp.	Evening primrose				
Phlox spp.	Phlox				
Polygonum Douglasi	Knotweed				
Ranuculus spp.	Buttercup				
Salsola kali tenuifolia	Russian thistle				
Senecio spp.	Groundsel				
Sisymbrium altissimum	Tumblemustard				
Taraxacum officinale	Dandelion				
Trifolium spp.	Clover				
Veratrum spp.	False hellebore				
Vicia spp.	Vetch				
Zygadenus spp.	Deathcamas				
Lithospermum spp.	Stone seed				
Mertensia spp.	Bluebell				
Linium spp.	Flax			7/1	
Lewisia spp.	Bitterroot				
Leucocrinium spp.	Lily				
BROWSE					
Amelanchier alnifolia	Serviceberry		5/20	8/15 ?	
Artemesia arbuscula	Low Sage	4/1		9/15 ?	
" spinescens	Bud sage	3/15			
" tridentata	Big sage	4/1		10/1 ?	
Chrysothamnus vicidiflorus	Rabbitbrush (green)	4/15	8/1	10/15	
Eriogonium spp.	Shrubby buckwheat			7/25	
Grayia spinosa	Hopsage			7/15	
Juniperus spp.	Juniper				
Populus tremuloides	Quaking aspen	5/1			
Purshia tridentata	Bitterbrush	4/15	6/1	7/20	
Ribies spp.	Gooseberry				
Rosa spp.	Wildrose			9/1	

HILL CAMP

Scientific Name	Common Name	Starts Growth	Flowers	Seed Ripe	Regrowth if Grazed to:
BROWSE (Cont.)					
sarcobatus vermiculatus	Greasewood				
Symphericarpos spp.	Snowberry		7/1	8/15	
Tetradymia spp.	Horsebrush				
Cercocarpus spp.	Mtn. Mahogany			7/15 ?	
Sambucus spp.	Elderberry			8/15 ?	
Prunus virginiana	Chokecherry			8/15	

COLEMAN SEEDING

Scientific Name	Common Name	Starts Growth	Flowers	Seed Ripe	Regrowth if Grazed to:
GRASSES & GRASSLIKE PLANTS					
Agropyron cristatum	Crested wheatgrass	3/1	6/5	7/10	5/20
" spicatum	Bluebunch "	3/15	6/10	7/15	4/20
Bromus tectorum	Cheatgrass	3/10	5/15	6/10	
Carex spp	Sedge		5/15	6/25	
Distichlis stricta	Saltgrass	4/1			
Elymus cinereus	Giant wildrye	3/20	6/20	8/1	5/10
" triticoides	Creeping wildrye	3/15	6/15	7/20	5/10
Festuca idahoensis	Idaho fescue	3/10	6/10	7/15	
Oryzopsis hymenoides	Indian ricegrass	3/20		7/15	4/15
Poa secunda	Sandbergs bluegrass	3/1	5/5	6/20	4/10
Sitanion hystrix	Squirreltail	3/1	6/5	7/15	5/10
Stipa spp. (Thruberiana)	Needlegrass	3/10	6/10	7/10	5/1
	Pubescent wheatgrass	4/1	6/10	7/20	
	Tall wheatgrass	4/1	6/15	7/25	
	Winter Rye (Commerical)	3/15	6/1	7/10	
FORBS	Annuals - dry				
Astragalus spp.	Milkvetch - Loco				
Delphinium spp.	Larkspur	3/10	5/5	6/10	
Halogeton glomeratus	Halogeton				
Lepidium spp.	Peppergrass				
Lomatium spp.	Biscuitroot-carrot-top				
Lupinus spp.	Lupine				
Polygonum Douglasi	Knotweed				
Salsola kali tenuifolia	Russian thistle				
Sisymbrium altissimum	Tumblemustard				
BROWSE					
Artemesia arbuscula	Low sage	4/1		9/15	
" tridentata	Big sage	4/1		10/1	
Atriplex confertifolia	Shadscale			10/1	
Chrysothamus vicidiflorus	Rabbitbrush (green)	4/15	8/1	10/15	
Eriogonium spp.	Shrubby buckwheat			7/25	
Grayia spinesa	Hopsage			7/15	
Juniperus spp.	Juniper				NOT GRAZED
Ribies spp.	Gooseberry				NOT GRAZED
Rosa spp.	Wildrose			9/1	

Scientific Name	Common Name	Starts Growth	Flowers	Seed Ripe	Regrowth if Grazed to:
BROWSE (Cont.)					
Salix spp.	Willow				
Sarcobatus vermiculatus	Greasewood				
Tetradymia spp.	Horsebrush				