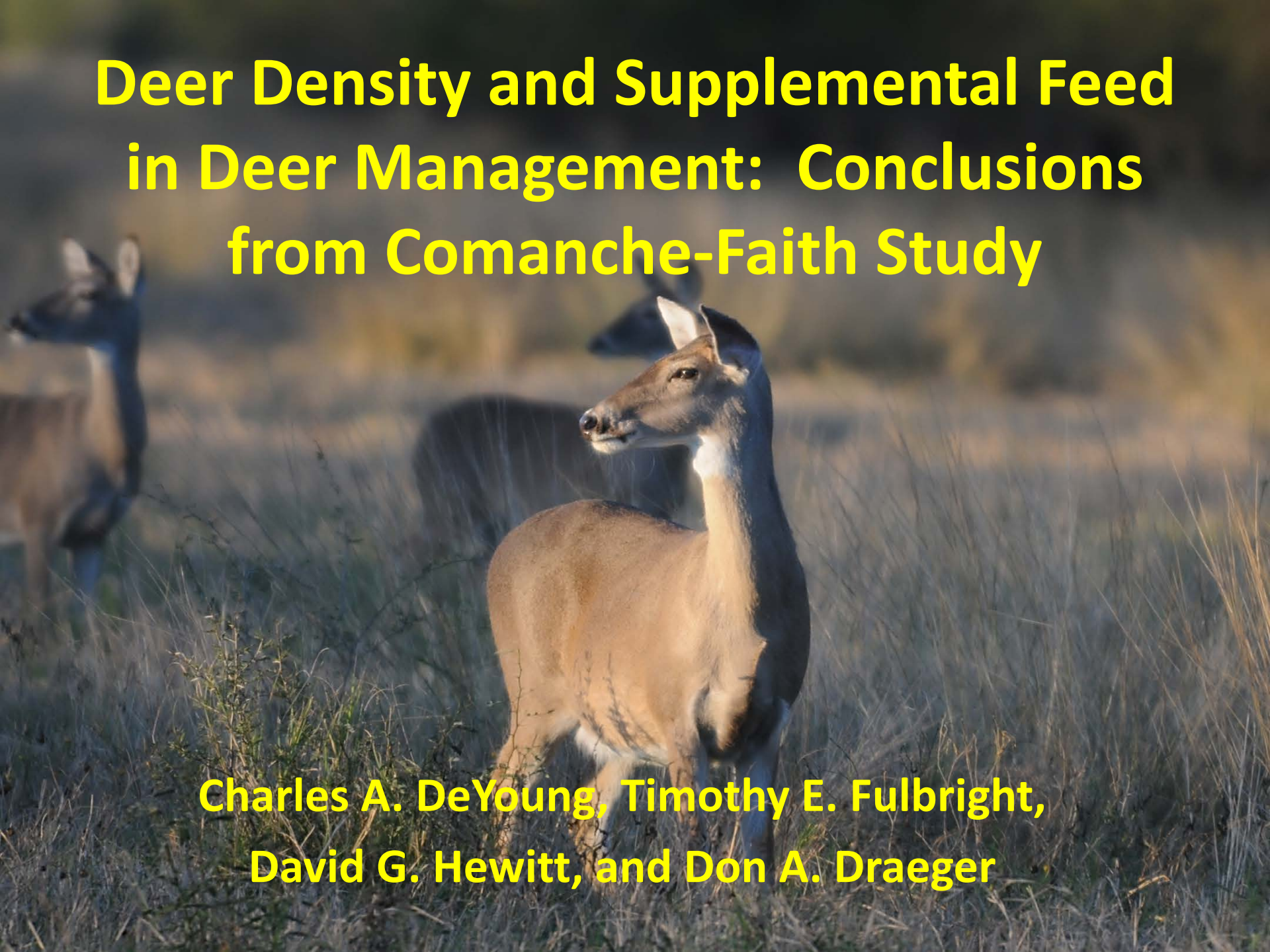
Deer Density and Supplemental Feed in Deer Management: Conclusions from Comanche-Faith Study



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Houston Safari Club

Wack Ezzell and Matt Moore

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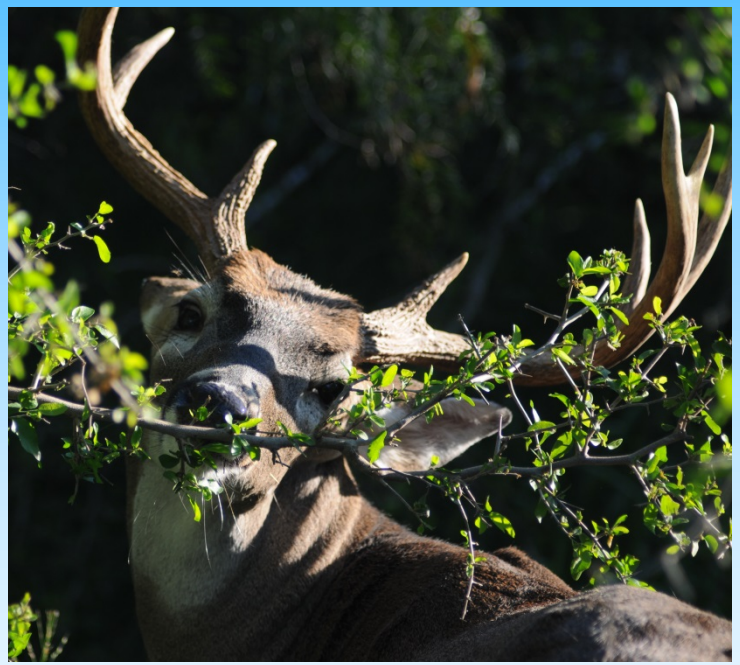
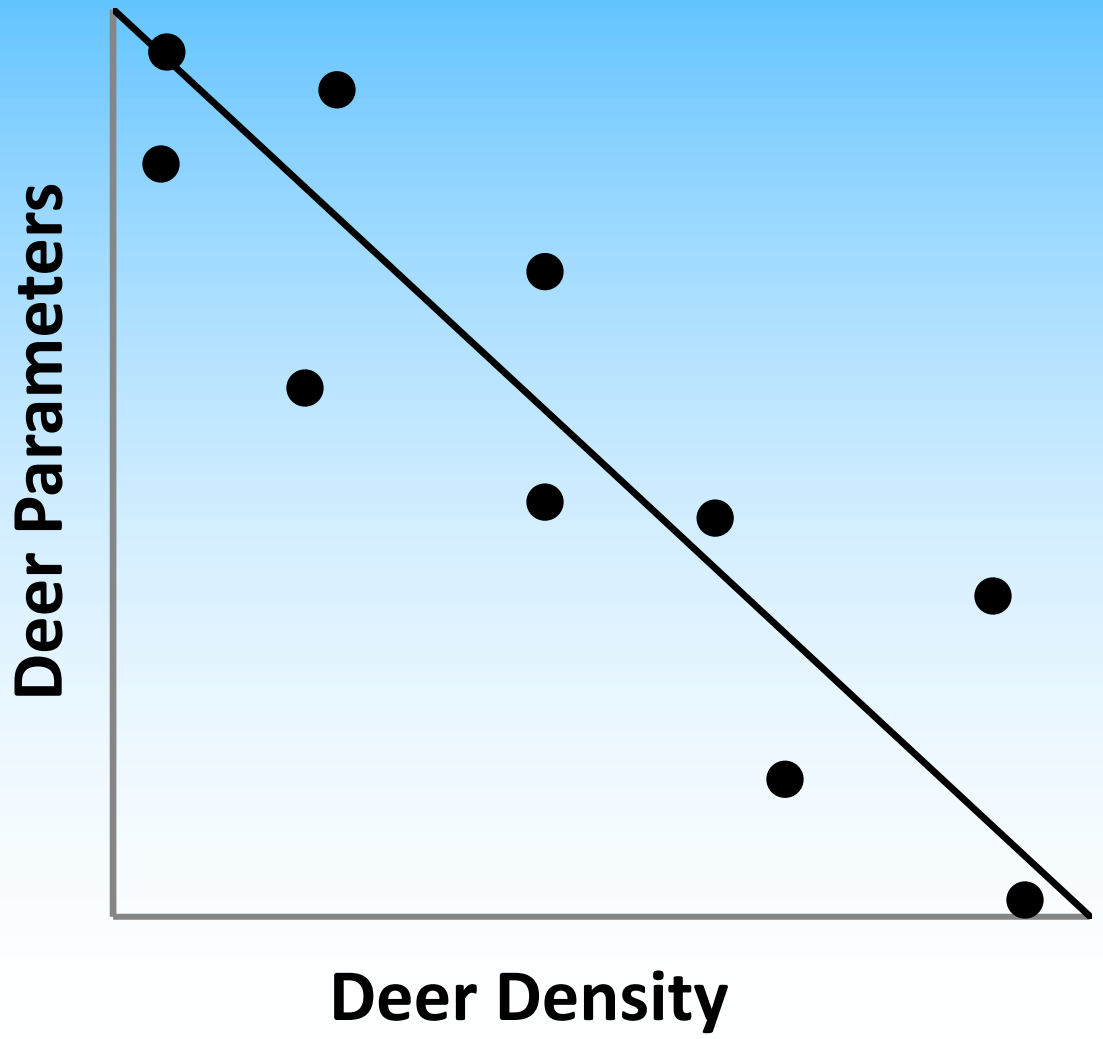
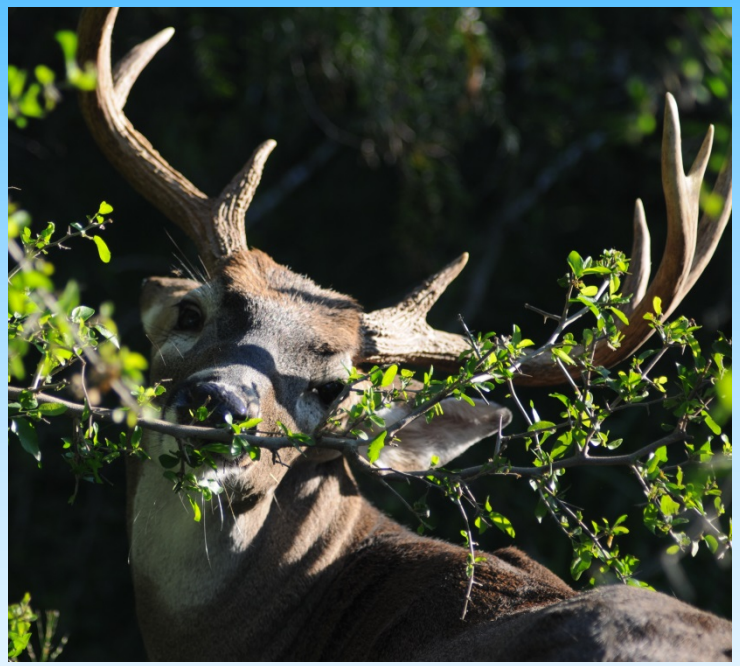
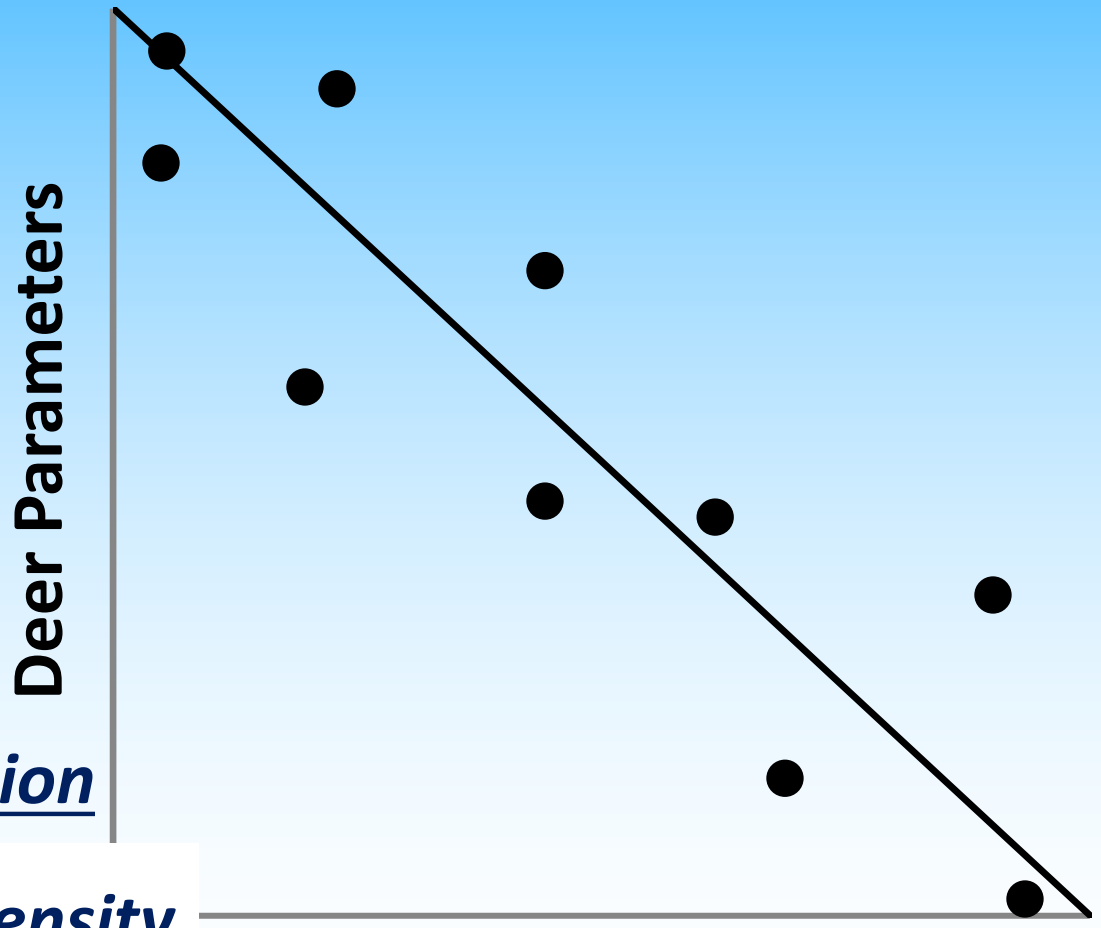
Density Dependence





Density Dependence

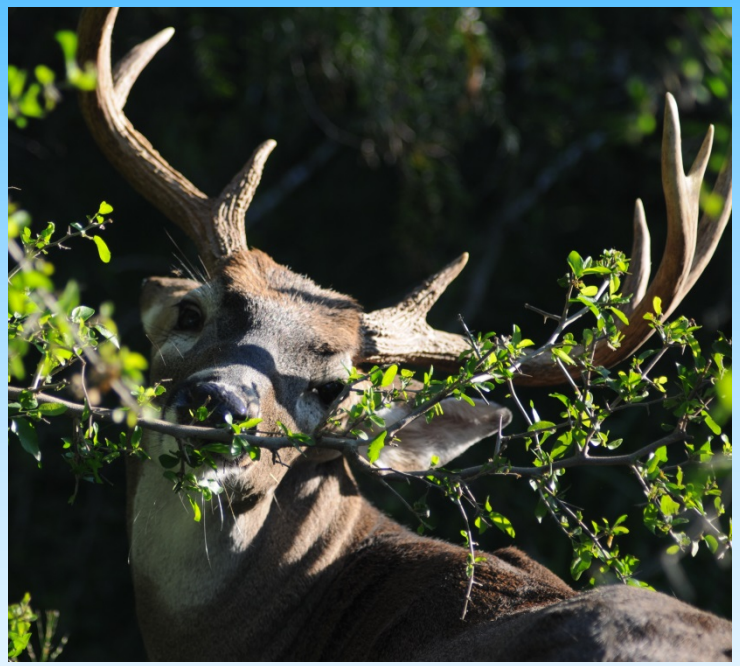


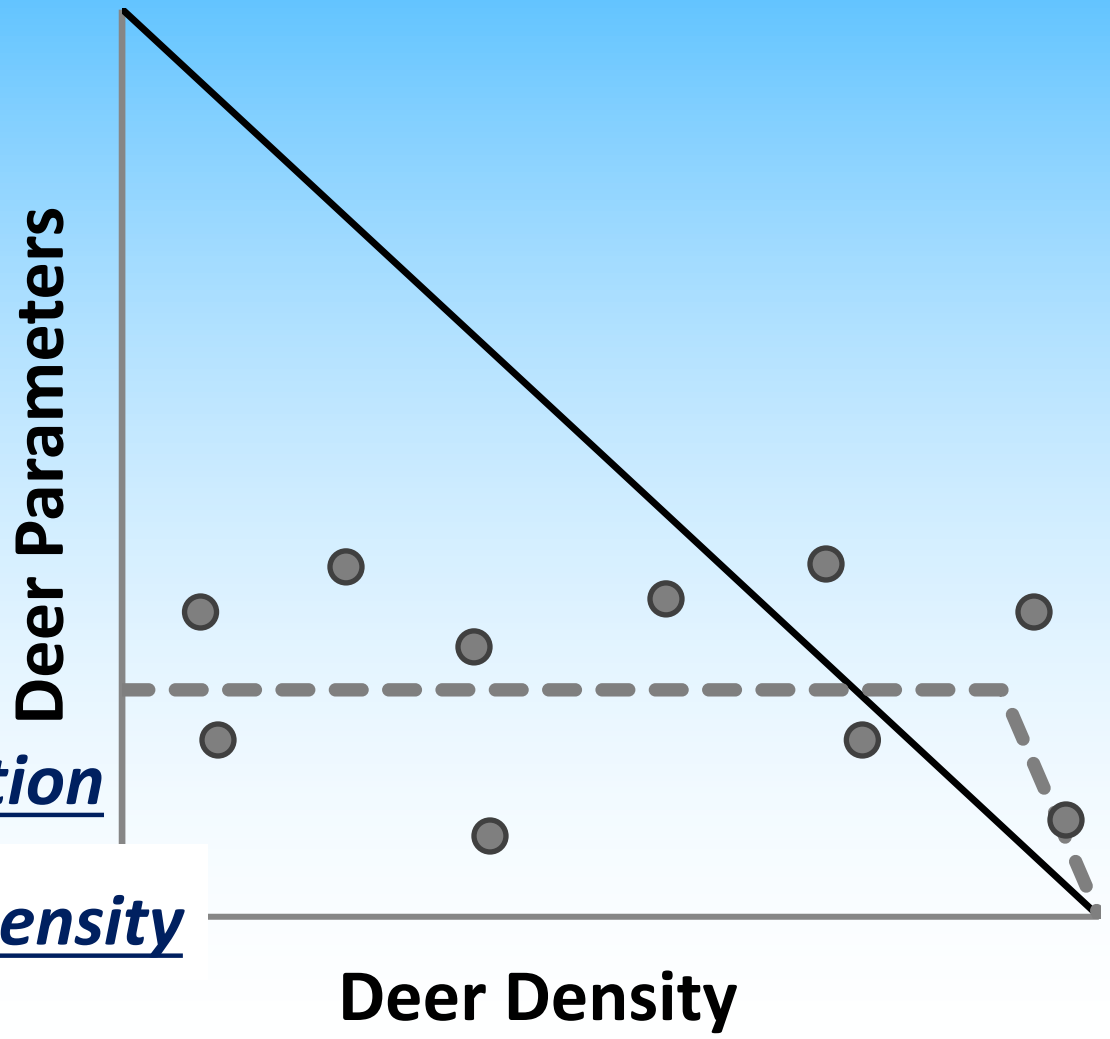


Management Prescription

↓Performance → ↓ Density

Density Dependence





Management Prescription

↓Performance → ↓ Density

Nutrition

South Texas Rangelands

- Nutritionally challenging
  - Soil fertility

Nutrition

South Texas Rangelands

- Nutritionally challenging
  - Soil fertility
  - Variable precipitation

Supplement and Deer Foraging

?

Objective

Assess the effects of

deer density and supplemental feed

on deer and vegetation

in southern Texas rangelands


DALLAM
SHERMAN
HANSFORD
OCHILTREE
LIPSCOMB
HARTLEY
MOORE
HUTCHINSON
ROBERTS
HEMPHILL
OLDHAM
POTTER
CARSON
GRAY
WHEELER
DEAF SMITH
RANDALL
ARMSTRONG
DONLEY
COLLINGSWORTH
PARMER
CASTRO
SWISHER
BRISCOE
HALL
CHILDRESS
BAILEY
LAMB
HALE
FLOYD
MOTLEY
COTTLE
FOARD
HARDEMAN
WILBARGER
WICHITA
CLAY
MONTAGUE
COOKE
GRAYSON
FANNIN
LAMAR
DELTA
RED RIVER
COCHRAN
HOCKLEY
LUBBOCK
CROSBY
DICKENS
KING
KNOX
BAYLOR
ARCHER
YOAKUM
TERRY
LYNN
GARZA
KENT
STONEWALL
HASKELL
THROCKMORTON
YOUNG
JACK
WISE
DENTON
COLLIN
HUNT
ROCKWALL
HOPKINS
FRANKLIN
TITUS
BOWIE
GAINES
DAWSON
BORDEN
SCURRY
FISHER
JONES
SHACKELFORD
STEPHENS
PALO PINTO
PARKER
TARRANT
DALLAS
KAUFMAN
VAN ZANDT
WOOD
RAINS
CAMP
UPSHUR
MARION
ANDREWS
MARTIN
HOWARD
MITCHELL
NOLAN
TAYLOR
CALLAHAN
EASTLAND
ERATH
HOOD
JOHNSON
ELLIS
HENDERSON
GREGG
SMITH
RUSK
PANOLA
HARRISON
EL PASO
HUDSPETH
CULBERSON
LOVING
WINKLER
ECTOR
MIDLAND
GLASSCOCK
STERLING
COKE
RUNNELS
COLEMAN
BROWN
COMANCHE
BOSQUE
HILL
NAVARRO
FREESTONE
ANDERSON
CHEROKEE
SHELBY
WARD
CRANE
UPTON
REAGAN
IRION
TOM GREEN
CONCHO
MCCULLOCH
SAN SABA
MILLS
HAMILTON
MCLENNAN
LIMESTONE
LEON
HOUSTON
ANGELINA
NACOGDOCHES
SABINE
REEVES
CORYELL
FALLS
ROBERTSON
MADISON
TRINITY
JASPER
NEWTON
JEFF DAVIS
PECOS
CROCKETT
SCHLEICHER
MENARD
MASON
LLANO
BURNET
BELL
MILAM
WILLIAMSON
WALKER
POLK
TYLER
PRESIDIO
BREWSTER
TERRELL
SUTTON
KIMBLE
GILLESPIE
BLANCO
Austin
BURLESON
WASHINGTON
GRIMES
MONTGOMERY
SAN JACINTO
HARDIN
ORANGE
VAL VERDE
EDWARDS
REAL
KERR
KENDALL
COMAL
HAYS
TRAVIS
BASTROP
LEE
FAYETTE
AUSTIN
WALLER
HARRIS
Houston
LIBERTY
CHAMBERS
JEFFERSON
KINNEY
UVALDE
MEDINA
BEXAR
GUADALUPE
GONZALES
COLORADO
FORT BEND
WILSON
LAVACA
WHARTON
BRAZORIA
GALVESTON
MAVERICK
ZAVALA
FRIO
ATASCOSA
KARNES
DEWITT
JACKSON
MATAGORDA
VICTORIA
GOLIAD
DIMMIT
LA SALLE
MCMULLEN
LIVE OAK
BEE
REFUGIO
CALHOUN
SAN PATRICIO
ARANSAS
WEBB
DUVAL
JIM WELLS
NUECES
KLEBERG
ZAPATA
JIM HOGG
BROOKS
KENEDY
STARR
HIDALGO
WILLACY
CAMERON

Study 2004 - 2013

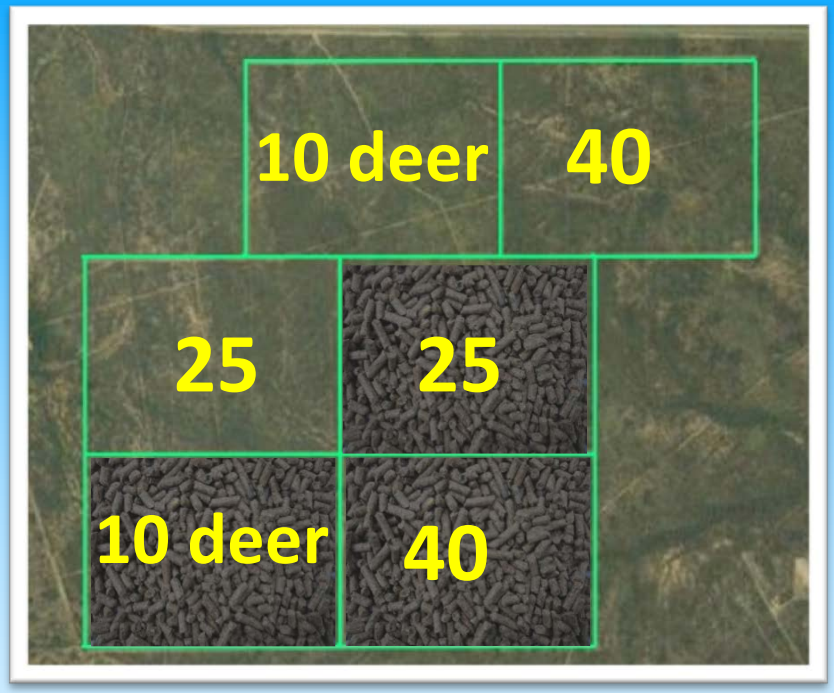
2 study sites

6 enclosures/site

200 acres

Comanche

Faith



Study 2004 - 2013
2 study sites
6 enclosures/site
200 acres
3 deer densities
Supplement trmt

Supplement

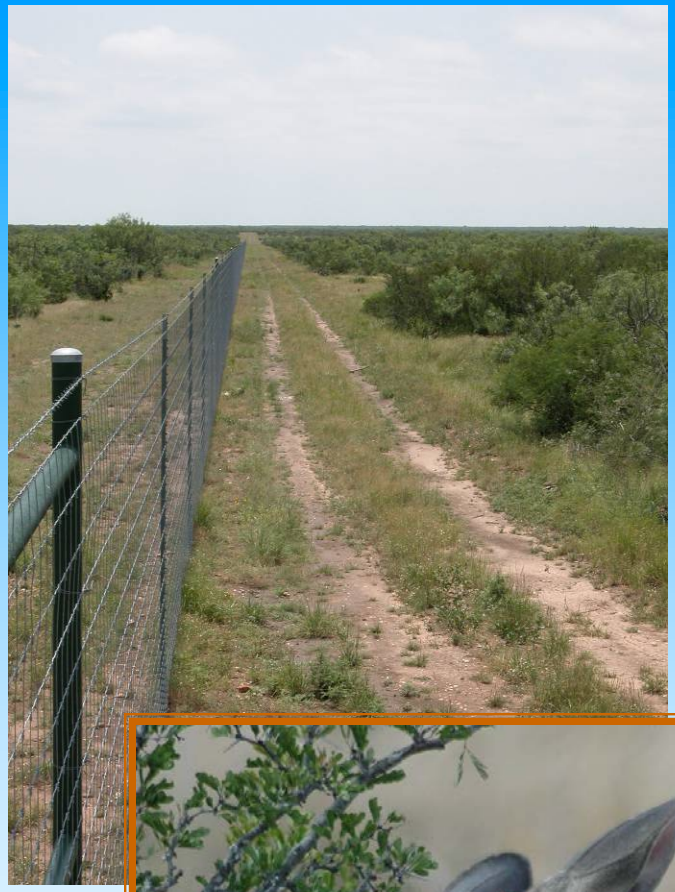
- Pelleted
- 22% CP
- 3.0 kcal DE/g
- Mineral fortified
- *Ad libitum*
- 1 feed site with 2 feeders/enclosure

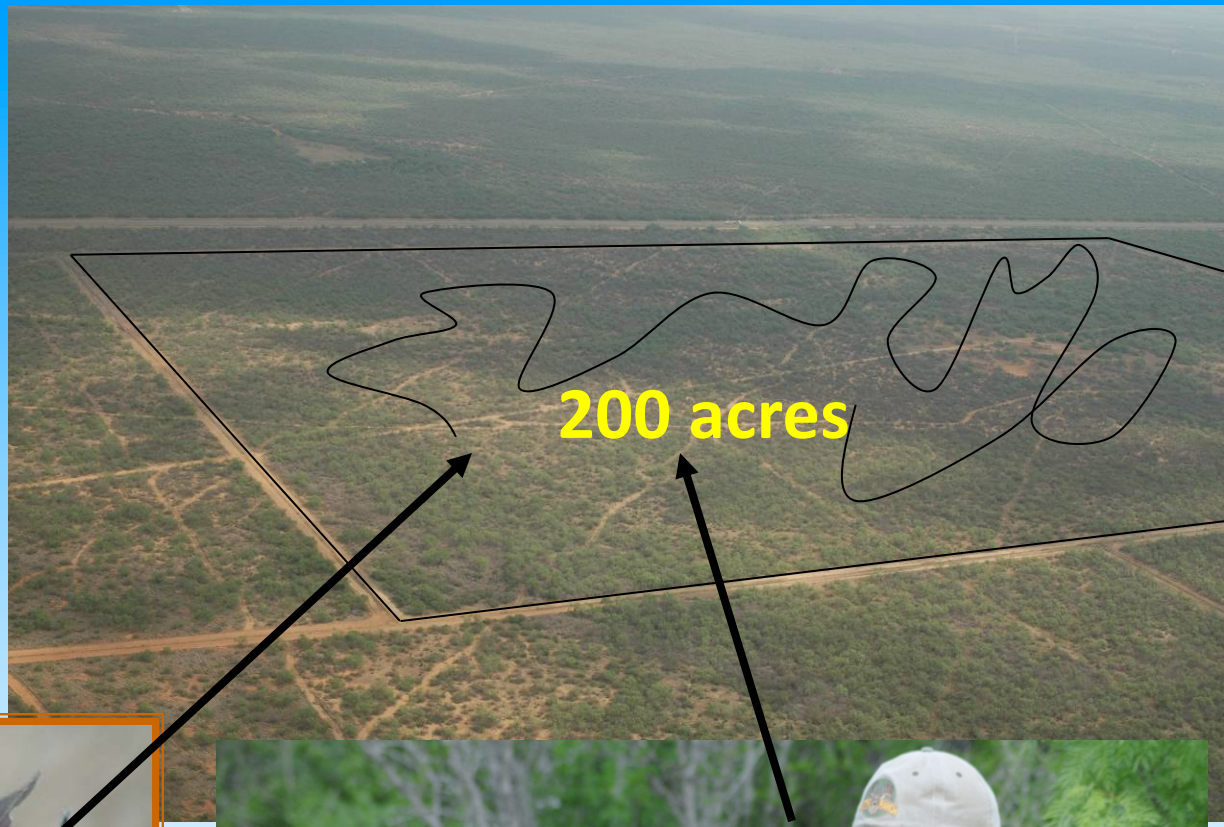
Methods - Deer

- Deer marked with ear tags
- Autumn and winter camera surveys
- Helicopter capture or harvest twice/year to maintain population size
- Morphometric measurements of all deer handled

Methods - Vegetation

Methods – Deer diets




200 acres

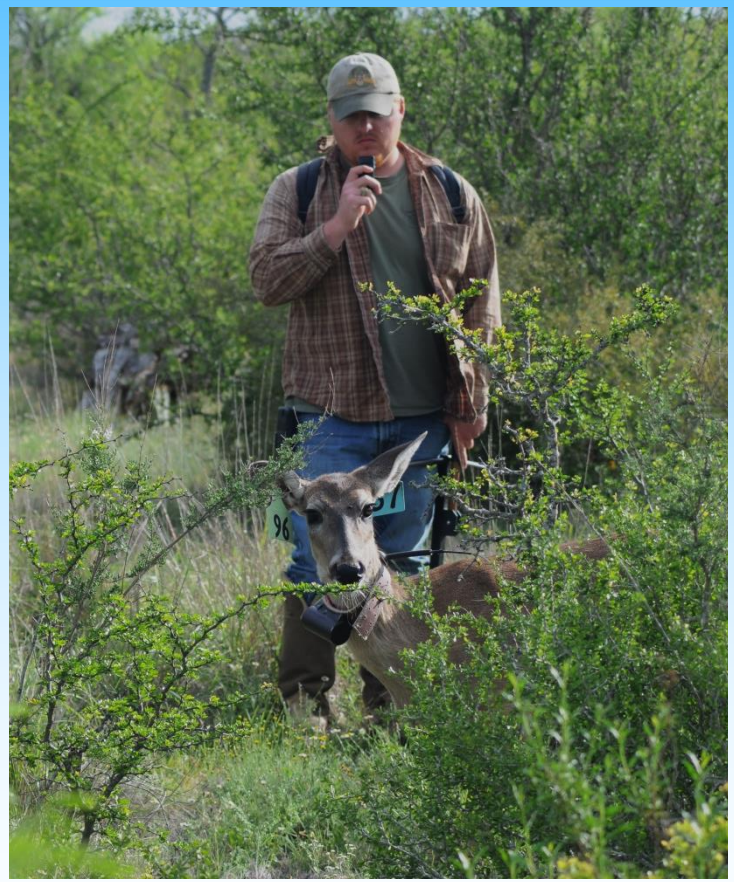

57

Objectives

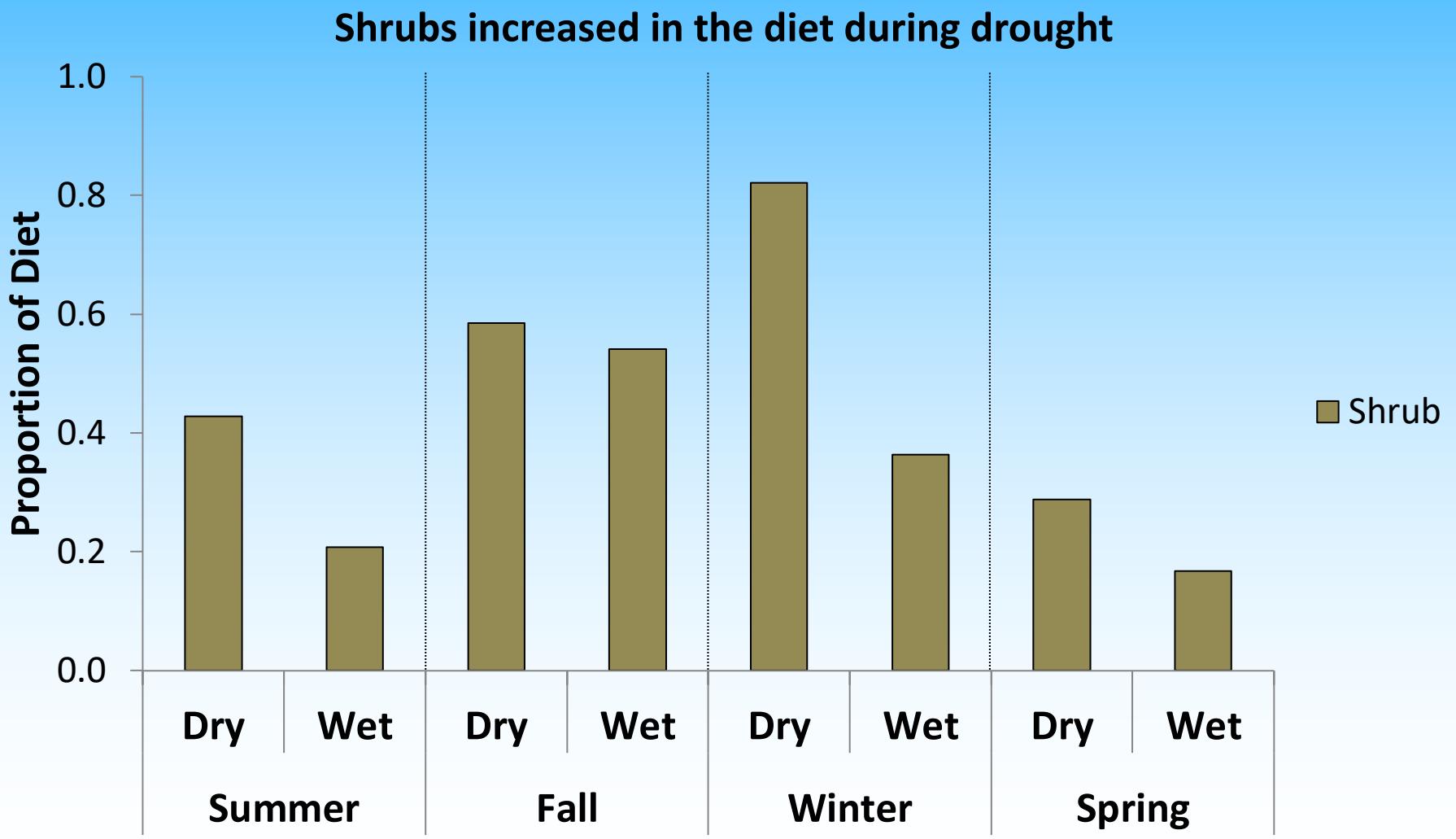
Determine the effect of:

- **deer density**
- **supplemental feed**

on deer diet composition and quality



Drought Effects on Deer Diets



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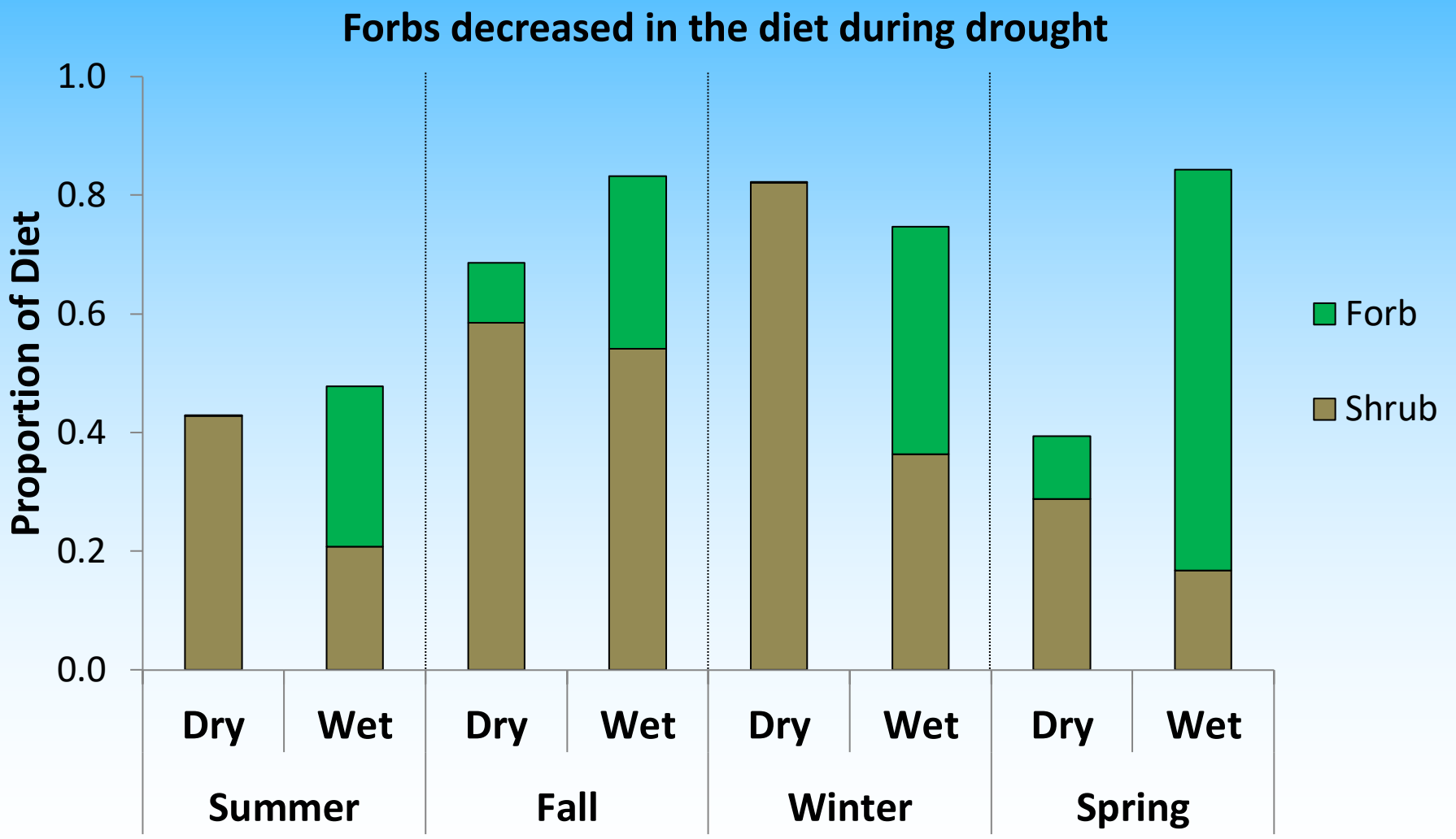
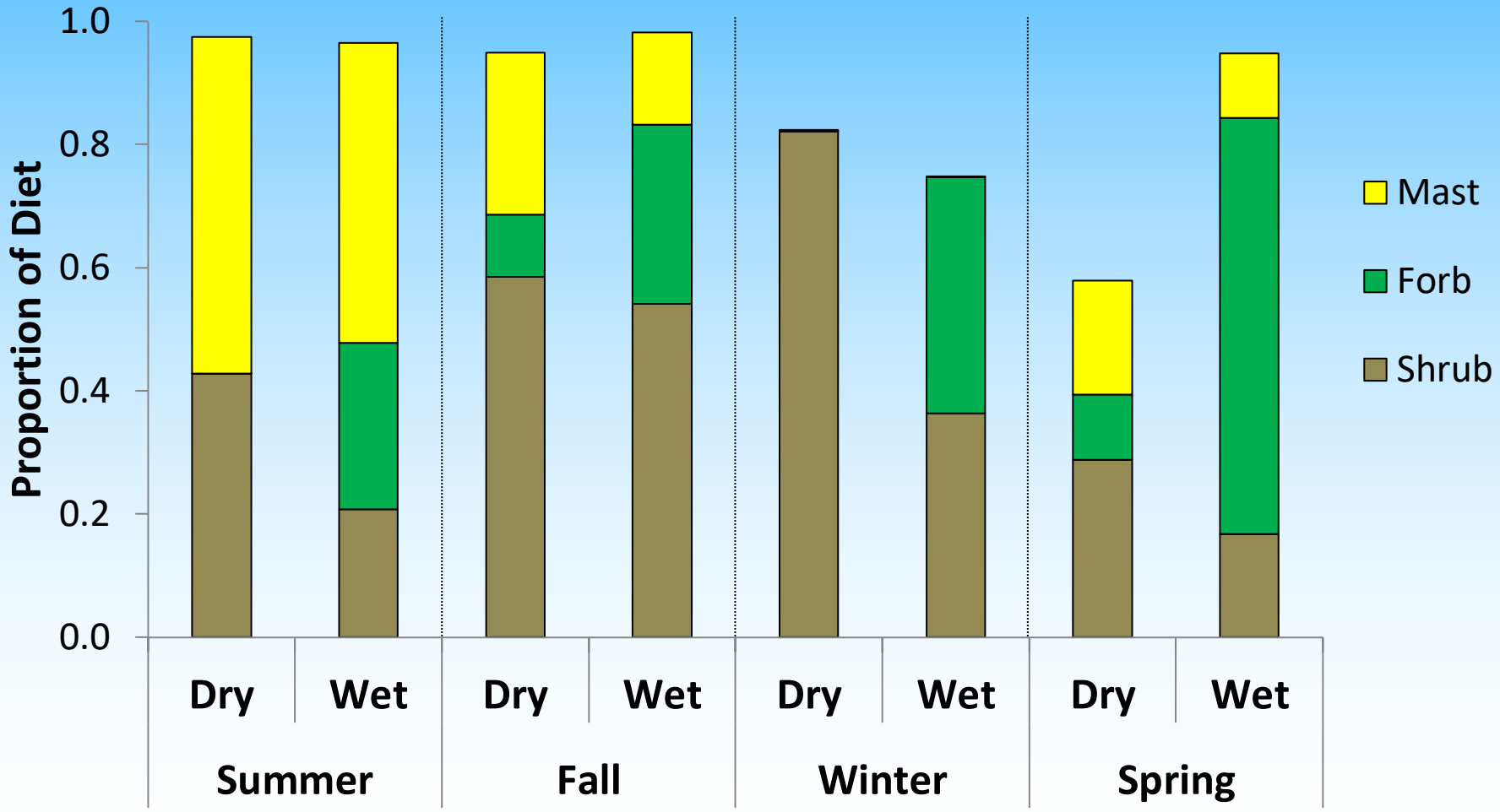
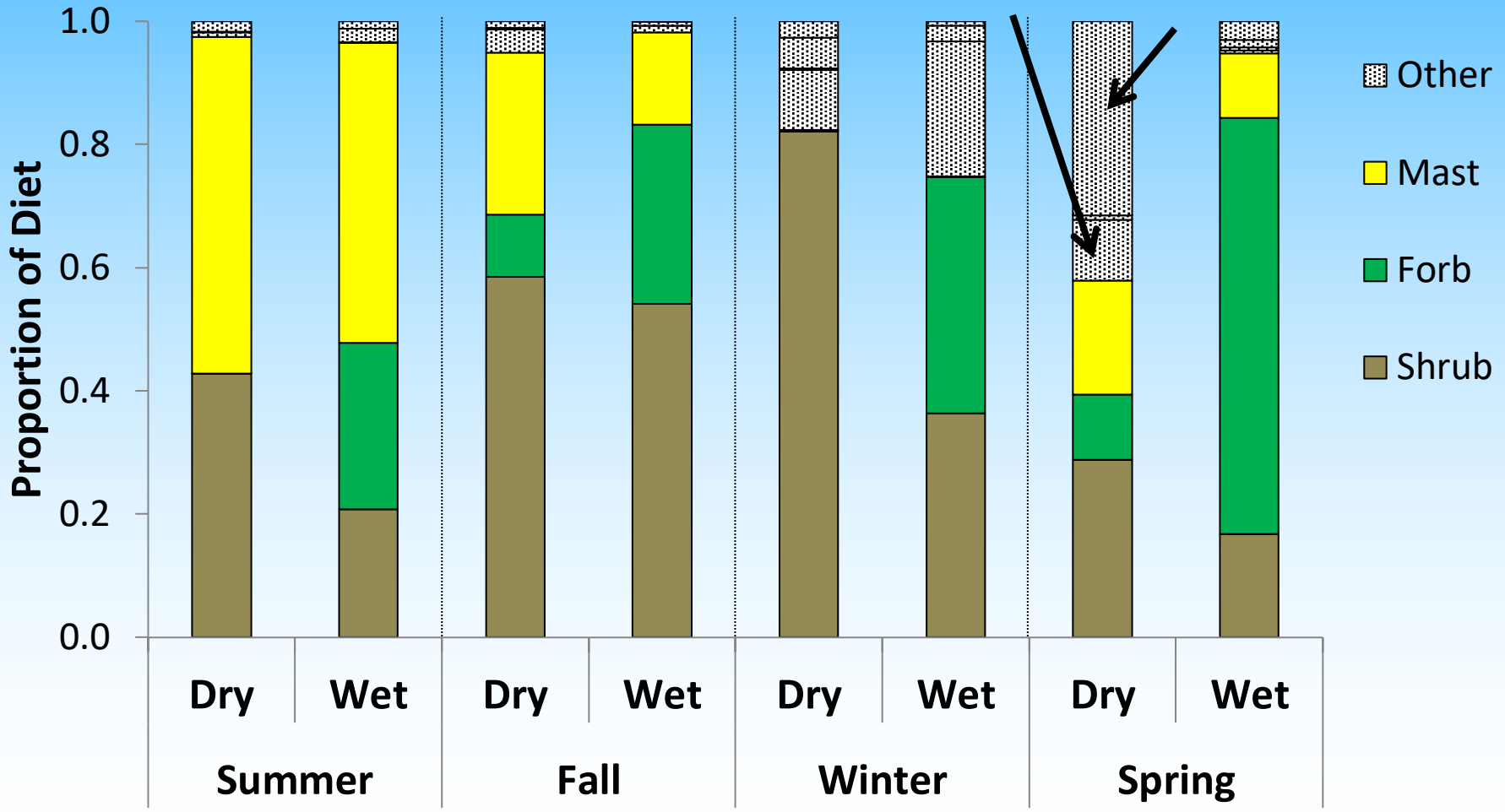


Drought Effects on Deer Diets

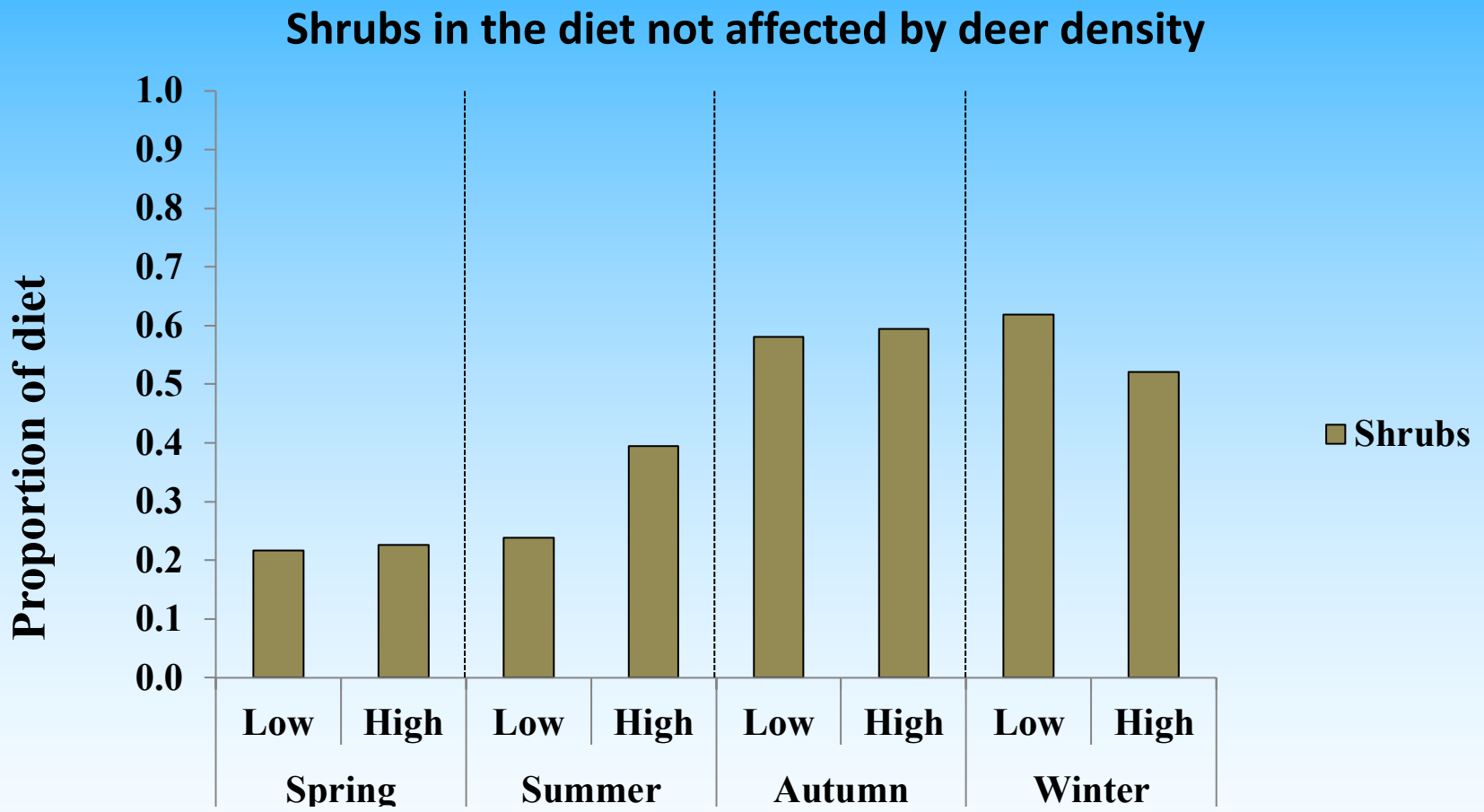


Drought Effects on Deer Diets



Deer Density

Deer Density Effects



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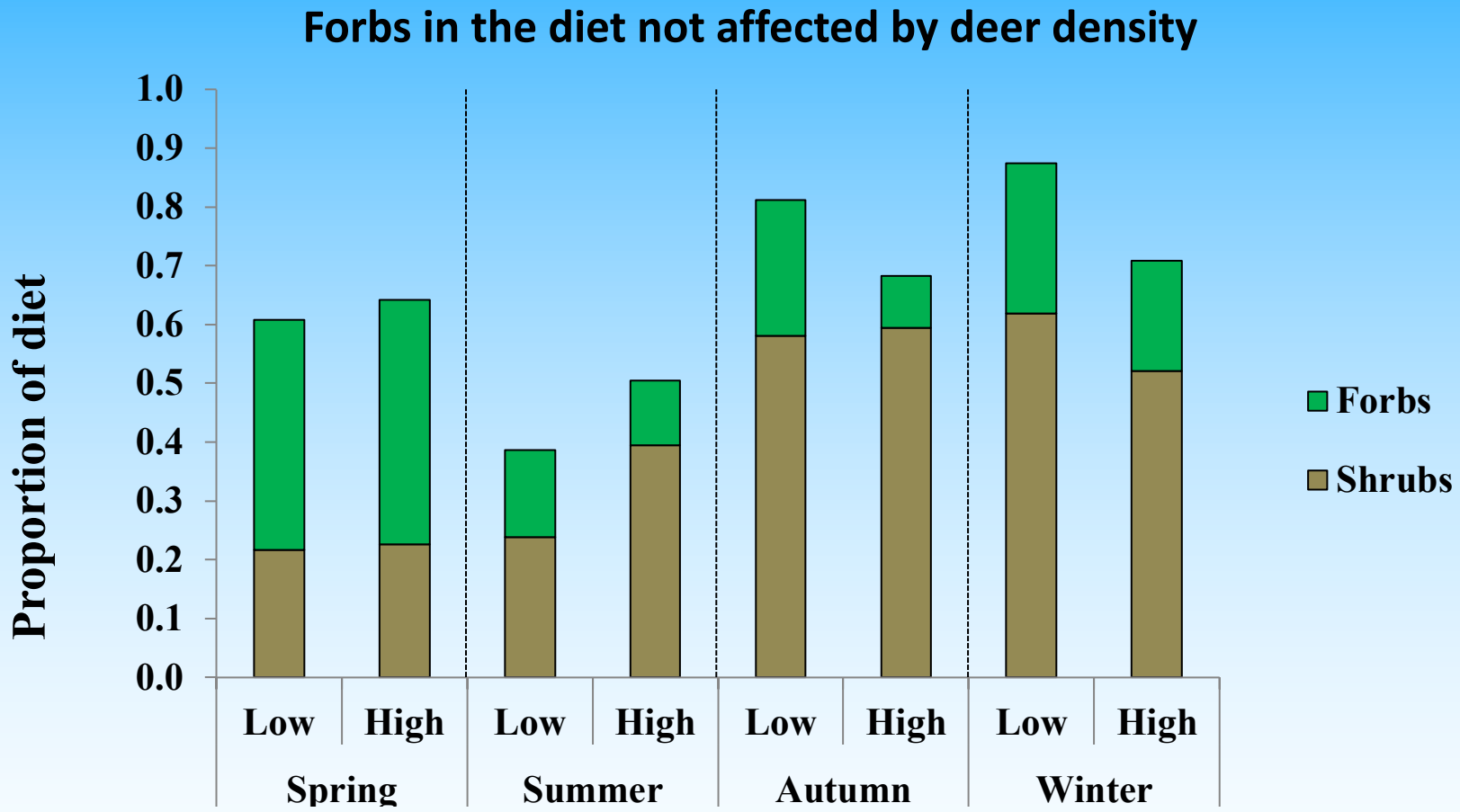
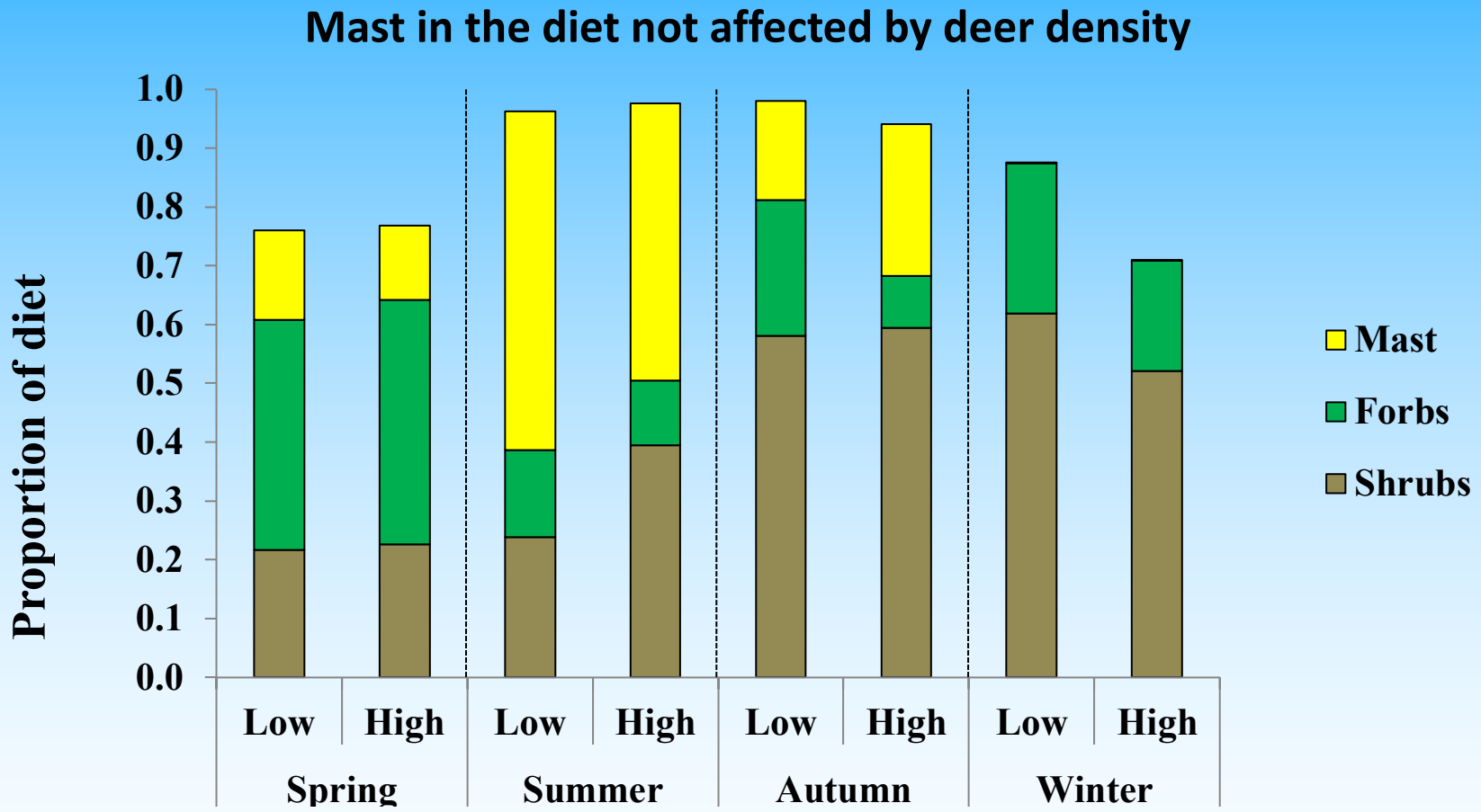


Deer Density Effects



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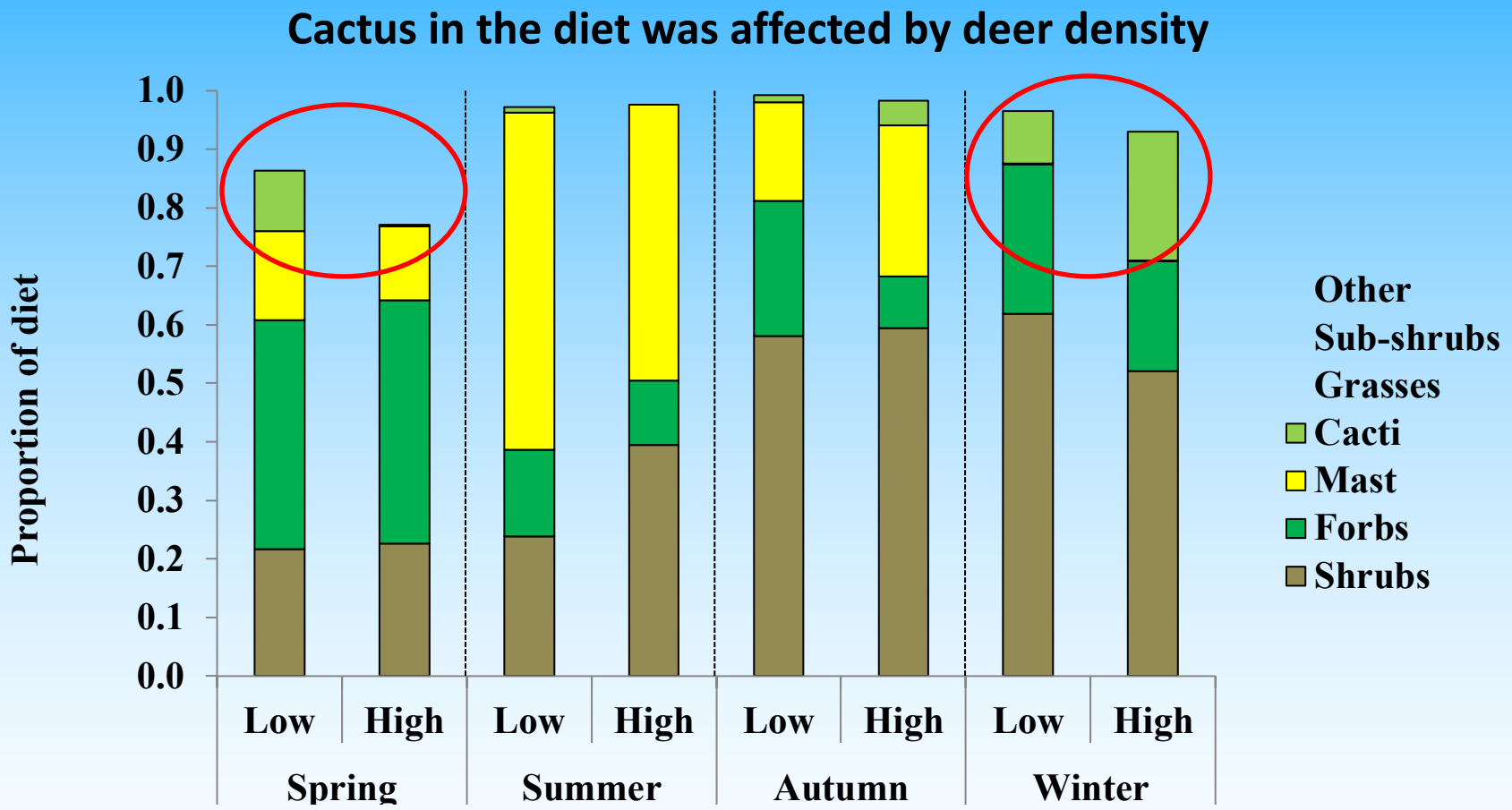

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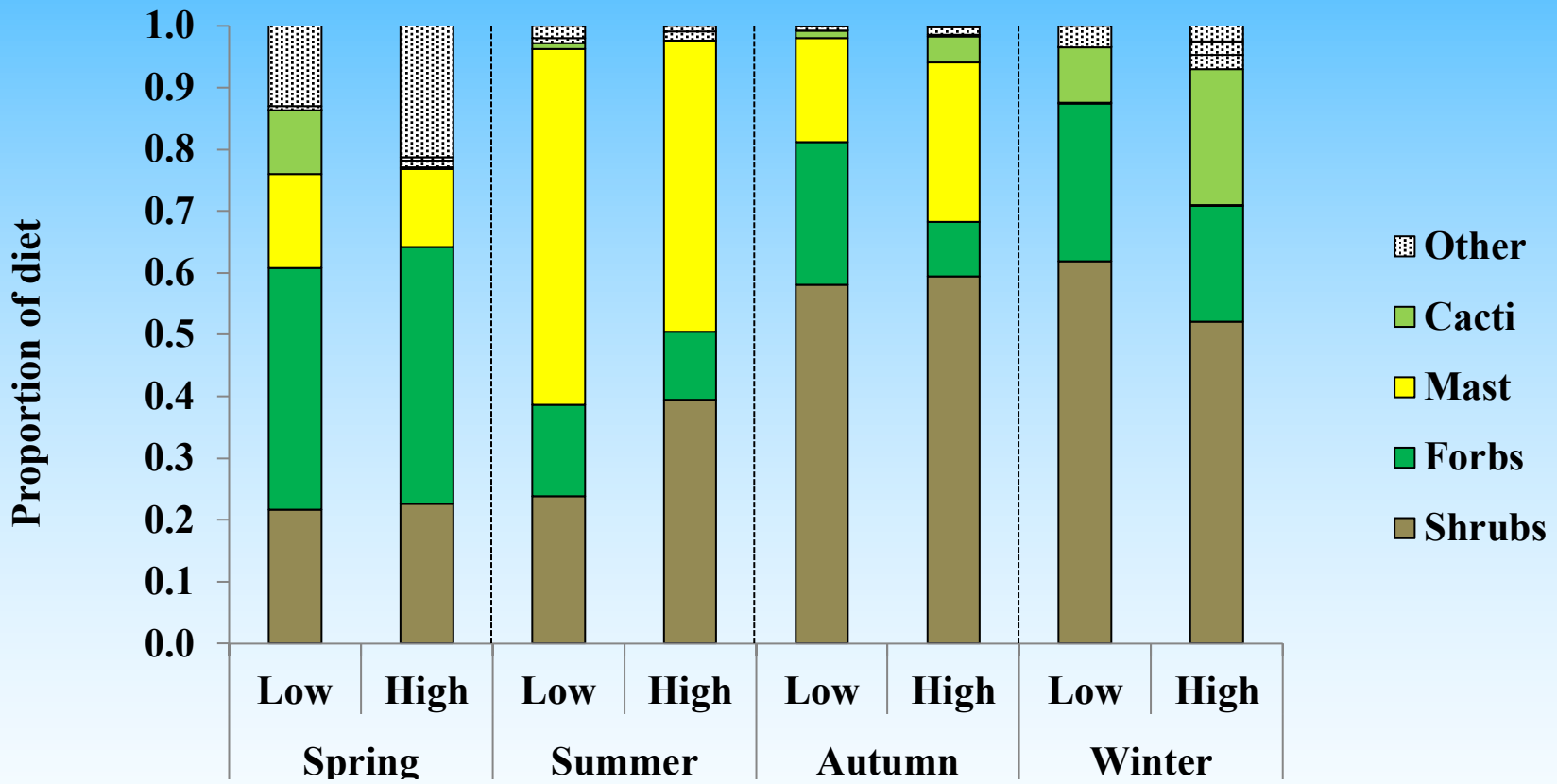


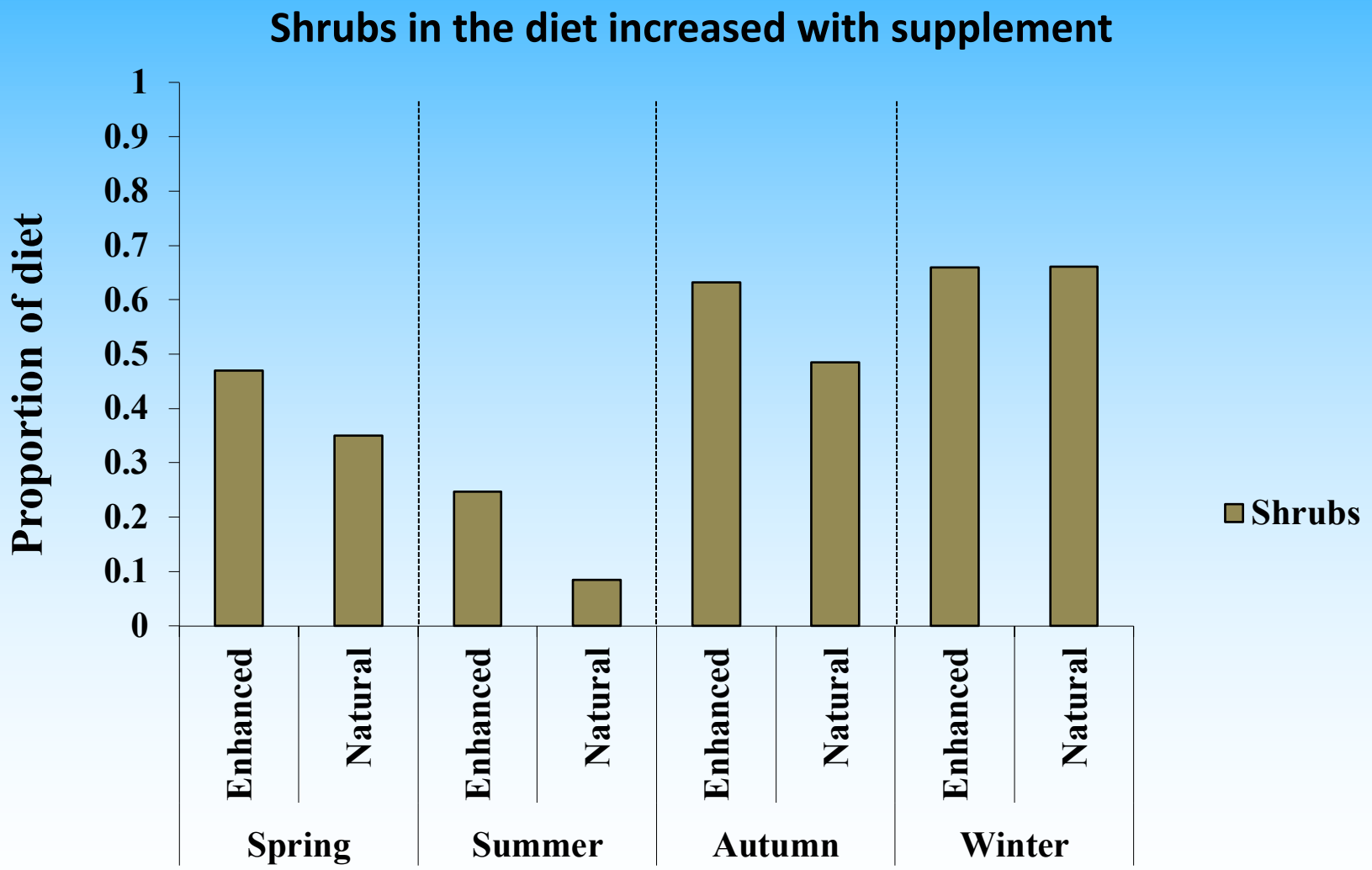
Deer Density Effects

- Diet Quality
- No change in digestible protein
  - 10 vs. 9%
- No change in metabolizable energy
  - About 2.25 vs. 2.20 kcal/g

Supplement and Deer Foraging

Vegetation portion of the diet only!

Supplemental Feed Effects



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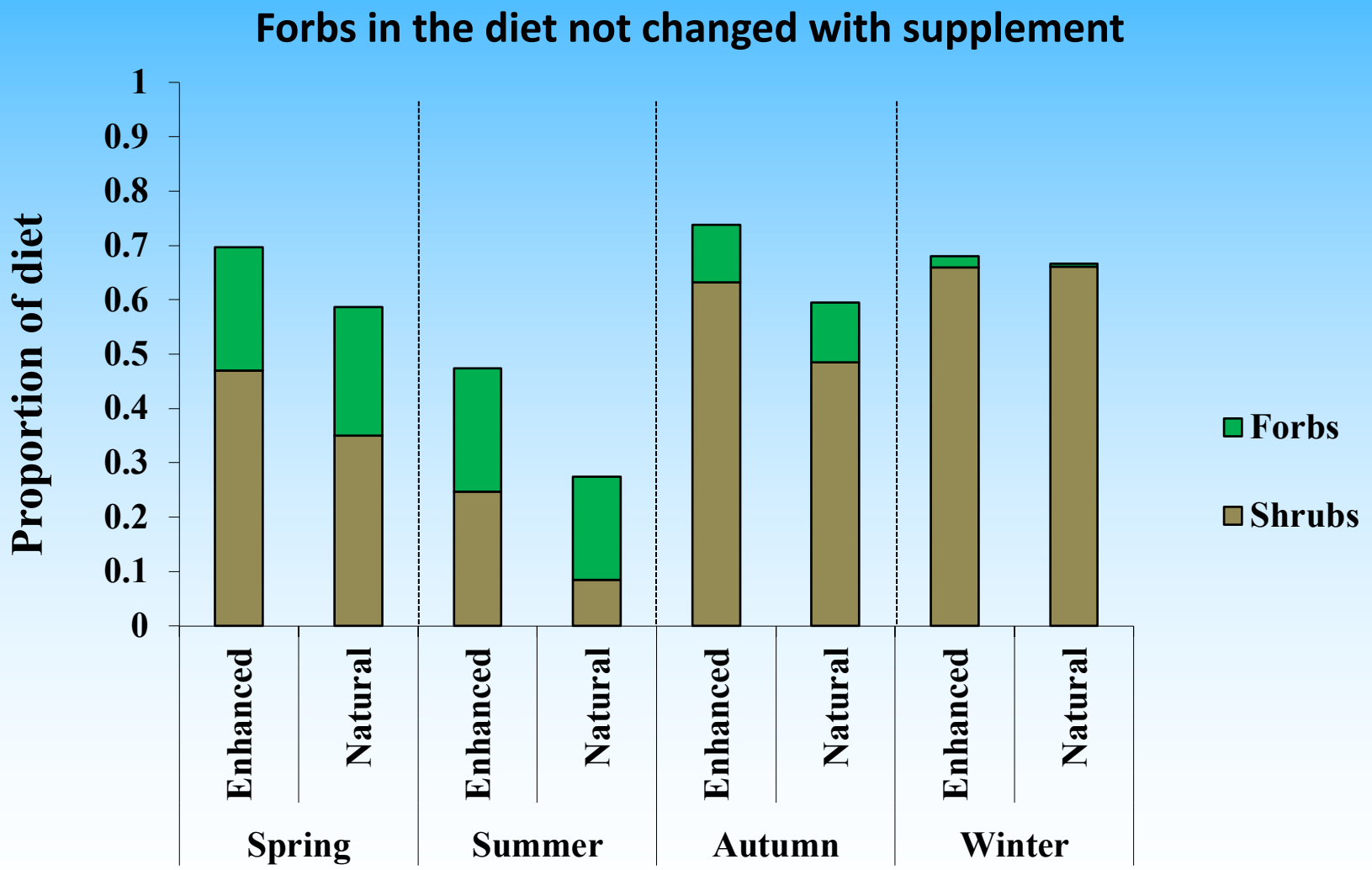

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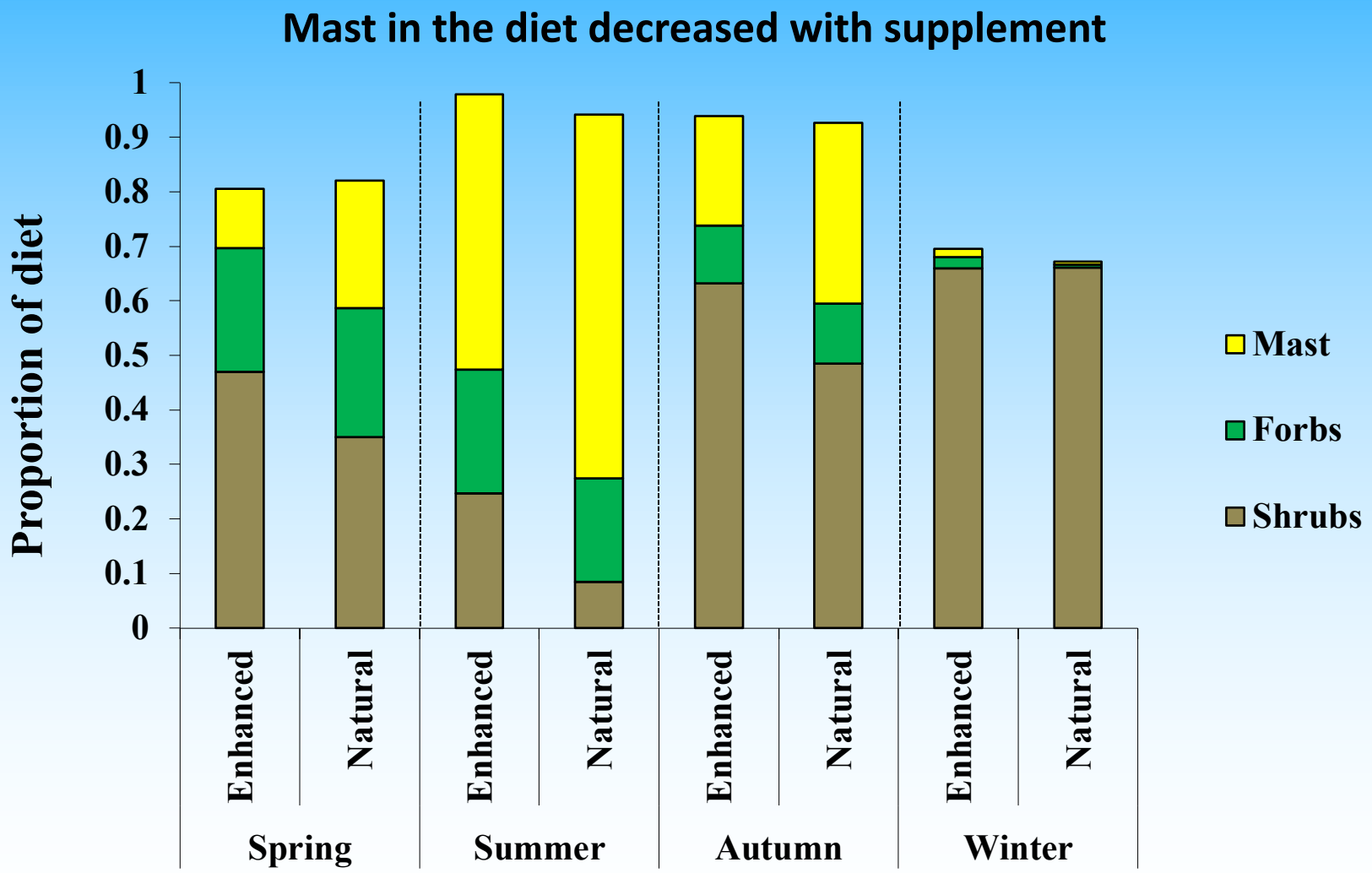
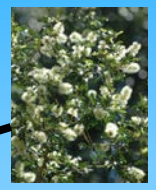
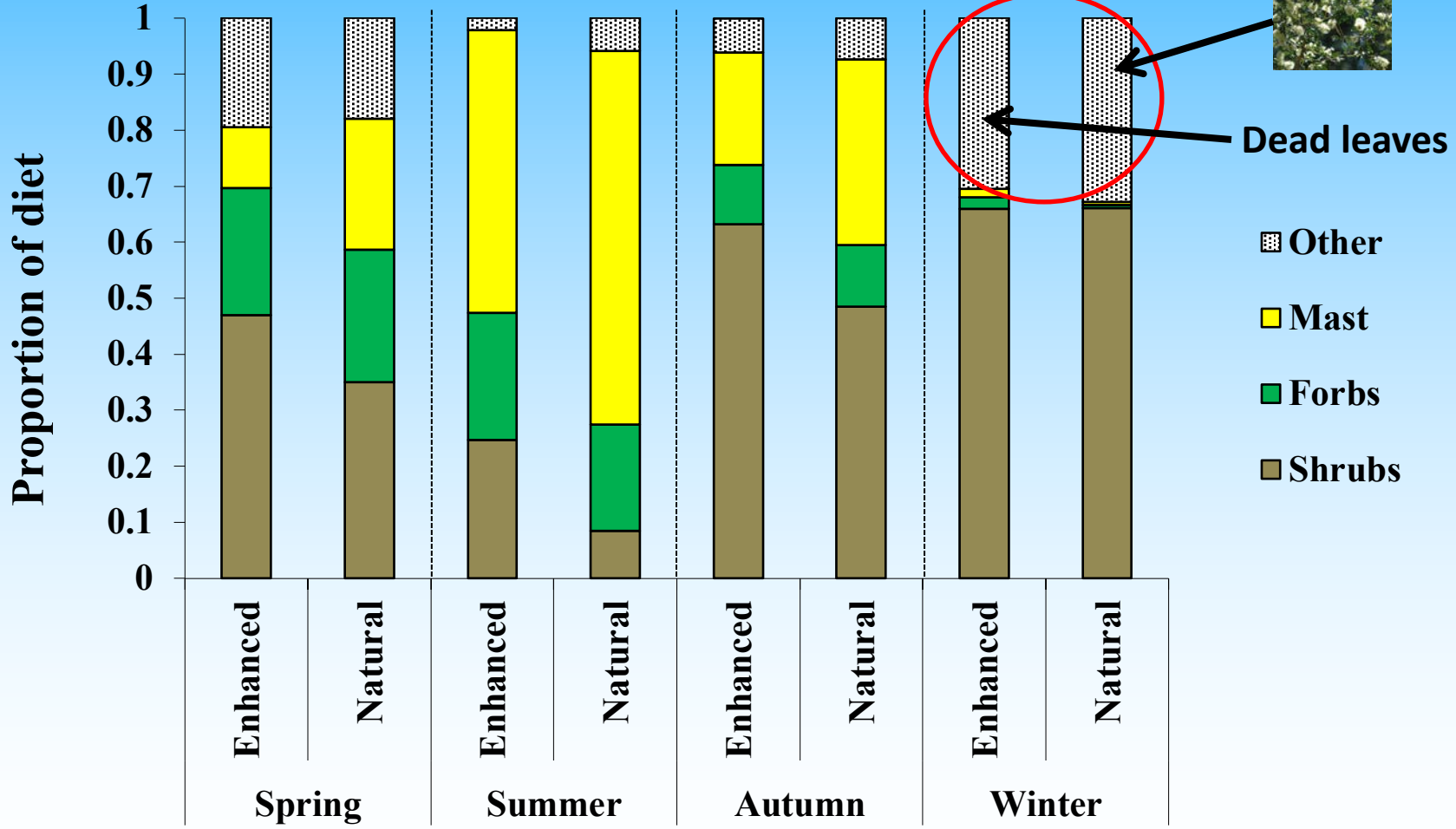


Supplemental Feed Effects

Flowers in the diet decreased with supplement

Dead leaves increased with supplement





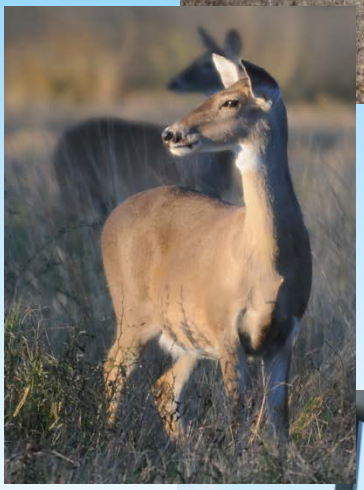
Supplemental Feed Effects

- Diet Quality of **vegetation portion** of diet
- No change in digestible protein
  - 10 vs. 9%
- Metabolizable energy lower with supplemental feed during spring and summer of 1 year
  - About 2.3 vs. 2.5 kcal/g

Summary

Effects on deer diets

- Drought had large effect



- Deer density had no detectable effect

- Supplement increased shrubs and reduced mast