

INDIVIDUAL MINERAL-SUPPLEMENT INTAKE BY EWES SWATH GRAZING OR CONFINEMENT FED PEA-BARLEY FORAGE

D. L. Ragen*, E.E. Nix, R.L. Endecott, M. K. Petersen, P. G. Hatfield, and J.G.P. Bowman
 Montana State University, Bozeman, MT

Introduction

Ewe mineral consumption in MT

- 0.5 to 1 oz/mineral daily
- Annual cost of \$4.49/ewe (Kott, 2005)

Justification

No literature on individual mineral intake or variation in mineral intake in sheep

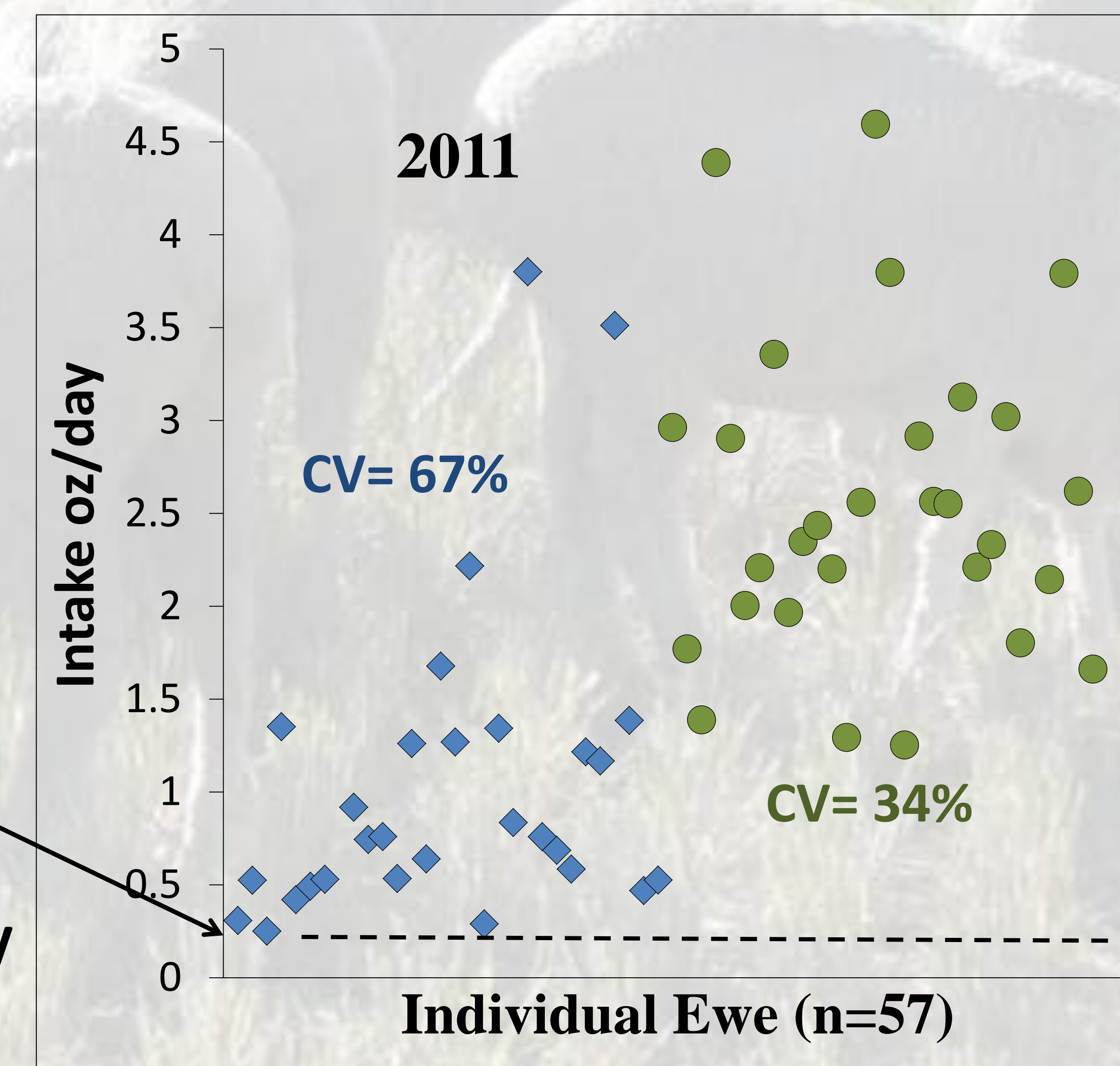
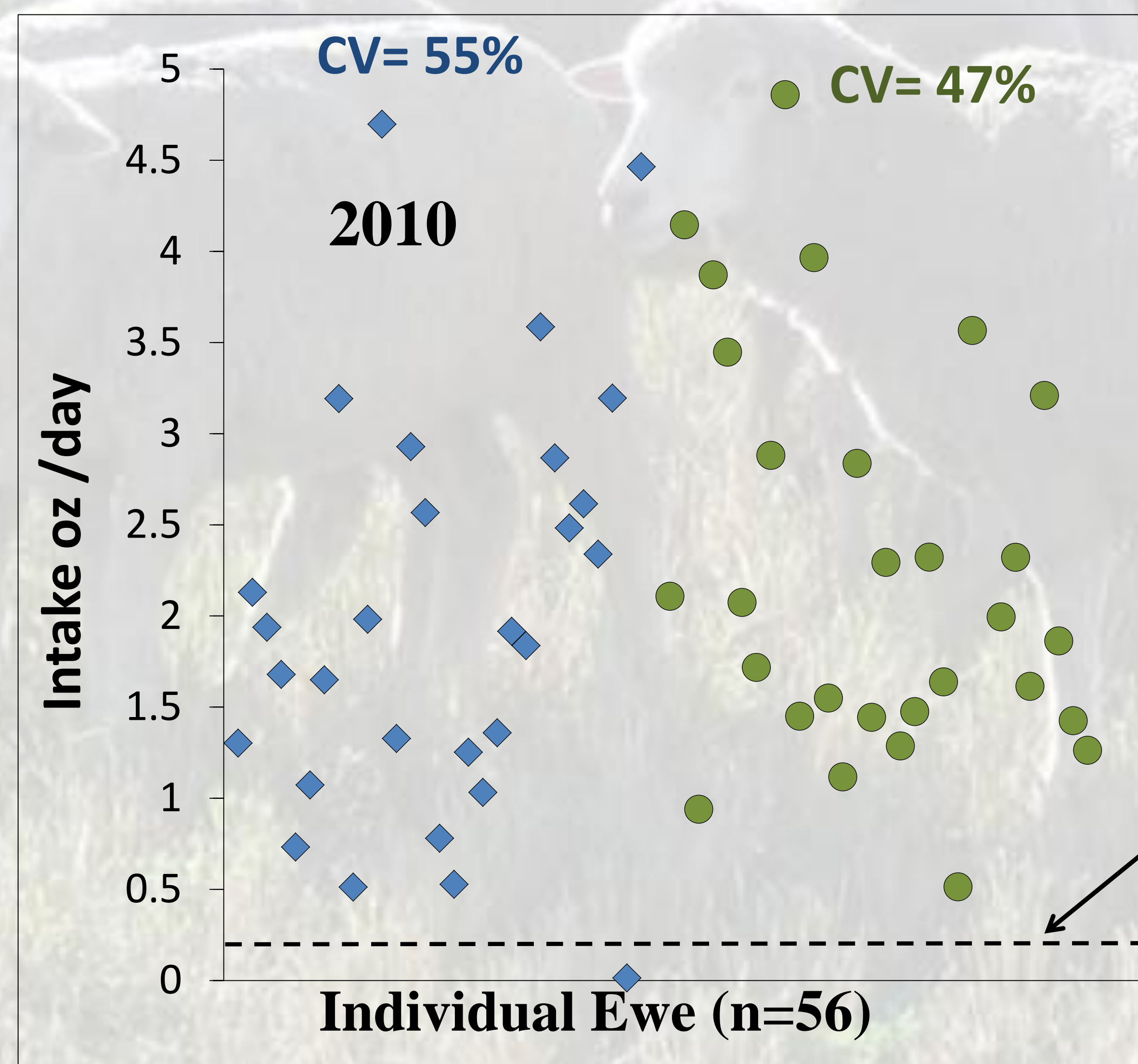
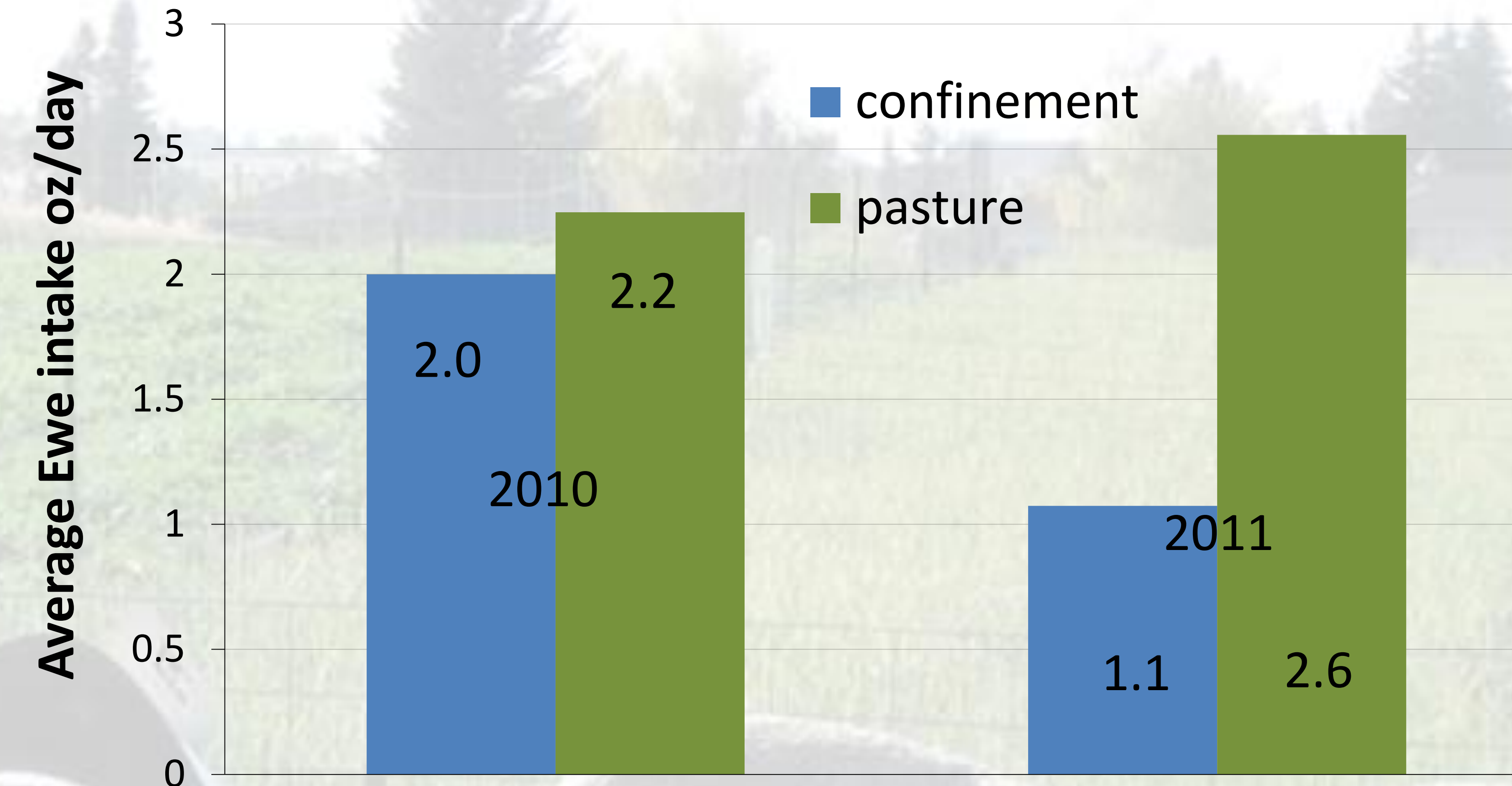
Objective

Determine if feeding method of pea-barley forage (swath grazing or hay in confinement) had an effect on individual ewe mineral consumption

Mineral Results

- Year x Treatment interaction for mean mineral supplement DMI and supplement DMI CV, % ($P = 0.05$)
- DMI CV, % was greater for the confinement treatment in 2010 and 2011 ($P < 0.04$)

Mean mineral intake was highest by grazing ewes in 2010 and 2011 ($P < 0.01$)



Materials and Methods

- Two year period: 2010 to 2011
- 60 mature ewes
- MSU's Fort Ellis Research Station
- 3 confinement pens
 - Fed baled hay
- 3 pea-barley pastures
 - 0.35 acres each
 - Grazed swath
- Ad libitum access to water, pea-barley hay/forage and mineral
- Markers
 - Titanium Dioxide (TiO_2)
 - mineral intake
 - Chromic Oxide (Cr_2O_3)
 - forage intake
- Digestibility
 - In vitro technique

Forage Results

Forage Production

- 2010= 6425 lb/acre
- 2011= 7980 lb/acre

Forage DMI

- No difference between treatments ($P = 0.40$)
- Average 5.93 lb/day



Item	Amount
Calcium	13.0%
Phosphorus	12.0%
Salt	11.75%
Magnesium	3.0%
Cobalt	4 ppm
Copper	7 ppm
Iodine	100 ppm
Manganese	1,800 ppm
Selenium	19.0 ppm
Zinc	2,000 ppm
Vit. A	250,000 IU/lb
Vit. D	25,000 IU/lb
Vit. E	500 IU/lb

Composition of mineral supplement with a target intake of 0.2 oz/day



Implications

- Knowledge of mineral intake can aid in formulating sheep mineral rations
 - Basis for further research on understanding sheep mineral intake
- Mineral intake ranged from 3% to 24% greater than the target intake
- Consumption was more than recommended by NRC and mineral manufacturer

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