



Sudangrass Hay Quality



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2007, Imperial County > 71,000 acres

> \$49,000,000

9th gross of Imperial \$1.3 billion ag industry

Sudangrass, C₄ very adaptable to desert climate

Summer daily max temps often > 110°



Used in local feedlot diets

Primarily grown as an export crop

East Asia; Japan, Korea, and Taiwan

Imperial has 365 d growing season

Sudangrass fits well into

winter vegetable or winter wheat

crop rotation



Annual preparation costs
Competes in Far East w/
Australian forage crops
Vagaries of export market –
Exchange rates, govt. policies,
decreased demand
Far East very sensitive to
“environmental contamination”



Recommendations:

Soil preparation

Planting date: soil temp > 60°

Seeding rate: 120-150 lb/a

Piper

Fertilization: 80-100 lb N if necessary

50 lb N after each harvest

Irrigation: harvests?, 4-5.5 ac-ft



Harvest: cut 6-8 inches, 10-20% flower
Brownleaf
Pasture
(Meister, 2004)





Brownleaf

**US, chemical analyses largely determine
hay quality**

**CP, ADF, NDF, minerals determine
quality**

Not so in Far East

**Each trading company has own
standards**

regional differences

“taste and smell”

Dark, green color associated w/ \uparrow NO_3

$\text{NO}_3 > 1000$ ppm rejected

COLOR –

Light to dark green, 4 or 5 grades

**Buyers distinguish naturally light colored
to purposefully sun-bleached**

STEM SIZE –

5 or 6 grades

2-4 mm, 5-7 mm, >8 mm, plus

Different proportions of each

#2 pencil 7 mm





← Green, dark colored hay



↓ Lighter colored hay





← **Thick stems**



← **Thin stems**

↑ **Quality**



Leafiness –

Leafiness vs stem thickness

A *SOFT* hay

implies some moisture for softness

Hay is made under very hot conditions

If hay has ↑ moisture → **BRICKS** in compressed bales

If hay ↓ moisture, bales shatter when compressed



4 or 5 color grades

5 or 6 stem grades

→ 20+possible grades !!

**Regional buyers taste and smell
compressed hay before trade**

→ subjective hay trading

→ ↑ discrepancies, seller vs buyer

“Beauty contest”



**If then, there are discrepancies
between US buyer and Far East importer
Discrepancies between US producer and
Far East importer
→ Beauty Contest
Sudangrass a good crop for Desert SW**





Thank You !!