Sudangrass Hay Quality

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San Diego, CA
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)
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 with $\uparrow$ NO$_3$
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 !!