United States Department of Agriculture Grain Inspection, Packers & Stockyards Administration

Federal Grain Inspection Service (FGIS)



USDA-GIPSA Federal Grain Inspection Service Rough Rice Inspection

> By Chuck Britton Quality Assurance Specialist Sacramento, CA



Governing Statutes

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United States
 Grain Standards
 Act (USGSA)

 Agricultural Marketing Act of 1946 (AMA)



The Agricultural Marketing Act of 1946

and the "Part 68" Regulations thereunder (as amended)



Inspections under the AMA

- Performed <u>only</u> upon request
- Not required by law
- Fees charged for service
- Most FGIS inspections of rice are required by contracts or agreements



Official Services

Cal Agri Inspection Co. is currently designated by FGIS to provide inspections in California. May, 2005 took over from State of CA. California Dept. Food & Agriculture





U.S. Rice Standards

- 1st established in 1918 for milled rice, and recommended for use in 1923
- 1927 established for rough rice
- 1942 established for brown rice
- Many changes over the years, with last change in 2002 for "hard milled".
 All changes go through a "Federal Register" process.



U.S. Standards for Rice

Rough or paddy rice

Brown rice for processing

Milled rice



Rough Rice Classes

Long Grain

Medium Grain

Short Grain

Mixed



Rough Rice Grading Factors

- Objectionable seeds
- Non-objectionable seeds
- Total seeds and heat damage
- Heat-damaged kernels
- Red rice and damaged kernels
- Chalky kernels
- Other types of rice
- Color

USDA

• Sample grade factors: Odor, Moisture over 14.0%, DLQ

Rough Rice Standard

	;		_		_	MAXIMUM LIM	Ľ	IS OF -						1
	:	SEEDS	A	nd heat-damage	D	KERNELS			:	CHALKY	1	CERNELS :		
GRADE		TOTAL (SINGLY OR COMBINED)	: : : :	HEAT-DAMAGED KERNELS AND OBJECTIONABLE SEEDS (SINGLY OR COMBINED)		HEAT-DAMAGEI KERNELS	:	RED RICS AND DAMAGE KERNELS (SINGLY OR COMBINED)	:	LONG	:	IN : MEDIUM : OR SHORT: GRAIN : RICE :	OIHER TYPES 2/	COLOR REQUIREMENTS 1/ (MINIMUM)
		Number in 500 grams	:	Number in 500 grams		Number in 500 grams	:	Percent	:	Percent	:	Percent:	Percent	
U.S. No. 1	:	4	:	3	:	1	:	0.5	:	1.0	:	2.0 :	1.0	: Shall be white or creamy.
U.S. No. 2	:	7	i	5	:	2	:	1.5	:	2.0	:	4.0	2.0	: May be slightly gray.
U.S. No. 3	:	10	i	8	:	5	:	2.5	:	4.0	:	6.0 :	3.0	: May be light gray.
J.S. No. 4	1	27	:	22	:	15	:	4.0	:	6.0	:	8.0	5.0	May be gray or slightly ros
J.S. No. 5	:	37	:	32		25	:	6.0	:	10.0	:	10.0	10.0	May be dark gray or rosy.
J.S. No. 6	:	75	:	75		75		15.0 <u>3</u> /	:	15.0	:	15.0 :	10.0	: : May be dark gray or rosy.
U.S. Sample grade	:	grades ino	m I	J.S. No. 1 to U	J.	S. No. 6, ir	r	lusive: (b		contain	SI	more than	14.0 mor	ts for any of the ercent of moisture; (c) is must e) is otherwise of distinctly l

Inspector grading requires approved picking surface and adequate lighting



The divider is always used to determine portion size for inspection Boerner for small portion and Cargo for large.

Grain Divider is one of the oldest pieces of Inspection equipment. Used to obtain a "representative" portion for analysis







Interpretive Line Prints also referred to as <u>Visual Reference Images</u> used to aid inspectors for subjective factors



Objectionable Seeds by count: 500 grams



Alligator Heads



Water Parsley



Kings Head (ragweed)





Morning Glory



Lowsena (sickle pod)





Johnson Grass



Turtle Back



Curley Indigo





Millet



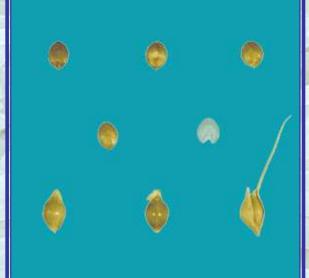
Pennycress



Spearhead



Non-Objectionable Seeds count:500 grams



Interpretive Line Slide R-1.1

USDA

 Whole or broken seeds of Echinochloa crusgalli *

* Commonly known as Barnyard Grass, Water Grass, Japanese Millet

Heat Damage: count 500 gr.



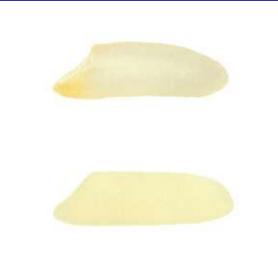
Interpretive Line Slide R-2.0 Whole or broken kernels with the intensity of discoloration equal to or greater than shown



Heat Damage



Damaged by Heat: % 25grams



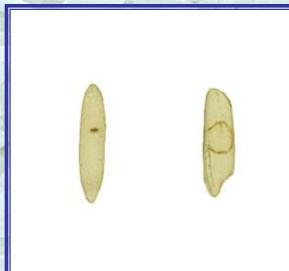
Interpretive Line Slide R-2.1 Any part of whole or broken kernels of rice which are distinctly discolored Any parboiled kernel in non-parboiled rice is damage.



Damage by Heat or "Stain"



Damaged Kernels: % 25 grams



Interpretive Line Slide R-2.7 Whole or broken kernels damaged by insects, water, or other means



Water Stain and peck Damage





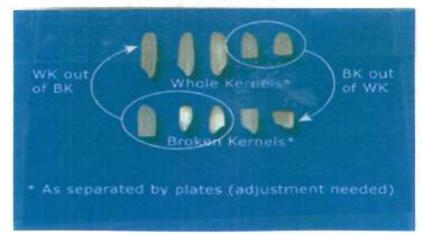




Total Broken Kernels (TBK) Whole Kernels (WK)

Broken Kernels

Broken Kernels - rice kernels which are less than three-fourths of a whole kernel.



WK defined as more than ³⁄₄ of kernel TBK defined as a broken kernel less than ³⁄₄ of a whole kernel

Milling Yield Rough Rice appraisal

Milling yield is an estimate of the total pounds and percent of whole kernels (head rice) obtained when milling rough rice to a well milled degree.

 Total rice is the amount of rice (whole and broken kernels) obtained after milling.

•Whole kernels or head rice is the percent of whole kernels in the total rice.

milling yield: WK/TR (shown on certificate in whole %).

USD/

Harvest samples for appraisal





Sample Check-In Each sample is logged into computer by applicant and assigned a GCI



Breakdown to 1000 grams Moisture on Dickey John meter File maintained for any sample over 2000 grams



Cal Agri Rough Rice file room: over 5000 moisture proof containers



Dockage by Carter Dockage machine: material other than rice certification to "tenth" %



Sheller: paddy rice to brown rice stage Yamamoto replaced Grain-man/McGill for 2011 crop



4 separate mills used for official services

Rough Rice (Paddy) Milling Room



McGill # 3 rice miller to determine Total Rice (TR)

7lbs milling wt for Medium 10 lbs short 2 lbs long

30 second milling and brushing cycles







Total Rice (TR) is total amount of milled rice from the McGill # 3, and weighed to gram weight. example here: 709.5 grams = 710grams or 71.0 TR



USDA

Foss Grain Check 312

Objective and consistent measuring instrument to determine broken (tbk) and whole kernels (wk) of milled rice



Whole kernels (WK) determined on 4th split (approx 40 grams) from the total rice the machine gives percentage of actual whole kernels





Inspection pan ticket or work record includes all the factors results from inspection

Man 50356	Rough Re Appr	118298
Pille No. 2006	180 Ca	nt No
	A B	DEC 29 2011
Contraction of the	Applicant's Use C	
Milling Test Only	V	Miling Test & Grade
Applicants	100	
Shipping Warehouse		values Med
Sample No. 12-13	-11_ 0	anty 332480
A-11 2970C		- 12
	RAIN	spector for
10.1 .		1.0
OBSSIT	RRD	Contraction of the second seco
HT	WK	65.4
NCH	TH	724
OT	DKG	0.5 × 4+51 Grame
CH	INSE	CTS GOD
HEMANKS		CAR IP
1.30	2011	(D) (D) 13
	2011	724
CAIC 102	G	3 90. 4 MA ornano

Example: Total rice =724 grams or 72.4 Grain check result: 90.4 72.4 X 90.4 = 65.4 wk Milling yield (round to whole%)= 65/72 wk/tr



Certificate



UNITED STATES DEPARTMENT OF AGRICULTURE FEDERAL GRAIN INSPECTION SERVICE AGRICULTURAL MARKETING ACT OF 1946

COMMODITY SUBMITTED SAMPLE INSPECTION OFFICIAL PINK CERTIFICATE

ONE SHARES IN ORIGINAL

US-CG0106005 NOT NEGOTIABLE

EVEL OF INSPECTION: ORIGINAL

WEST SACRAMENTO, CA

DATE OF SERVICE: December 29, 2011

IDENTIFICATION

US numerical grade

Official results are recorded

Can be used as prima facie evidence

USD

NOT OFFICIALLY SAMPLED

GRADE AND COMMODITY: U.S. NO. 1 MEDIUM GRAIN ROUGH RICE, Milling Yield: 65% - 72% RESULTS:

Color Creamy Red Rice And Damaged Kernels 0.5 %

Moisture 10.7 % Dockage 0.9 1

REMARKS: FILE: NONE CALC 118246 STATEMENT: APPLICANT STATES THAT THIS RICE IS FROM THE CROP YEAF 2011.

See Attached Second

CONTRY THAT THE MERVICE'S SPECIFIED AND/O WERE PERFORMED WITH THE REAL TO STATED. NAME OR SIGNATURE: EUSEBIO BECERRA

APPLICANT NAME:

ISSUING OFFICE: CALIFORNIA AGRI INSPECTION CO., LTD

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Rice harvesting in California

Rough rice shipment at the Port of Sacramento



Probe sampling of trucks for rough rice composite



Composite samples samples kept individually from each shipping warehouse

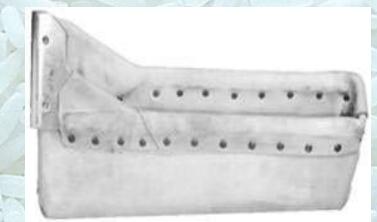
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AWARNING

Manual Sampling Devices (Hand Sampling)

1. Ellis Cup

2. Pelican



3. Compartmented Probe (Trier)

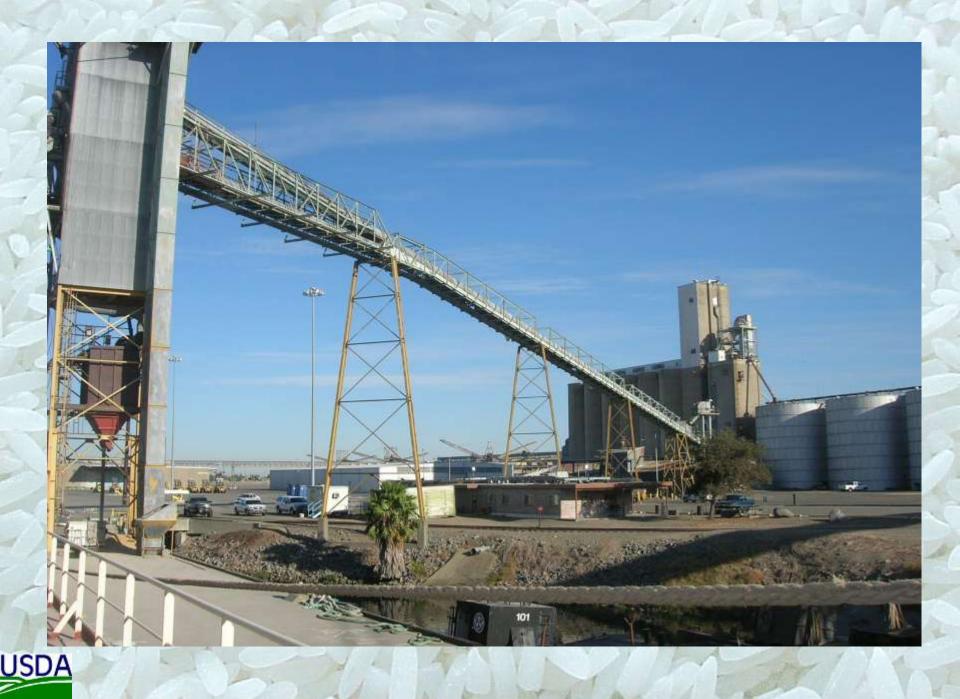


Ellis cup belt sampling



Destination: Turkey







Slings in Warehouse for future shipments to Japan or Korea





Check loading Sling bags



Port Sling Loading



Loading slings



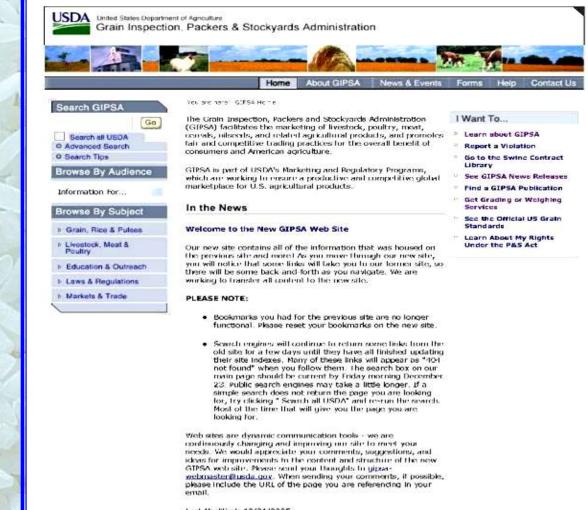
Slings in the HOLD







Visit the GIPSA Website www.gipsa.usda.gov



Last Modified: 12/21/2005

Thank You!

