


Rice Seed Quality Assurance Program

A wide-angle photograph of a lush green rice field. The rice plants are tall and slender, with long, narrow leaves that are a vibrant green color. The field extends to the horizon under a clear, light blue sky. The perspective is from a low angle, looking across the field.

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UCCE Annual Rice Grower Meetings – January 2018

Topics of Discussion:

1. California Crop Improvement Association (CCIA) overview
2. Why another seed program?
3. New Emergency regulations
4. Field & Seed Standards
5. Field Inspections
6. Grower responsibilities
7. Seed Conditioner responsibilities



The CCIA:

- Mission: “Provide services and support research that promotes the improvement, production, distribution and use of superior quality seeds and other agricultural products.”
- Was officially incorporated in 1944, however, seed certification in California began in 1925 through the efforts of the state Farm Bureau.
- Is the official seed certifying agency in California as recognized by California Seed Law.
- Is a private, non-profit organization affiliated with the University of California, Davis.
- Is funded through fees collected from services performed.

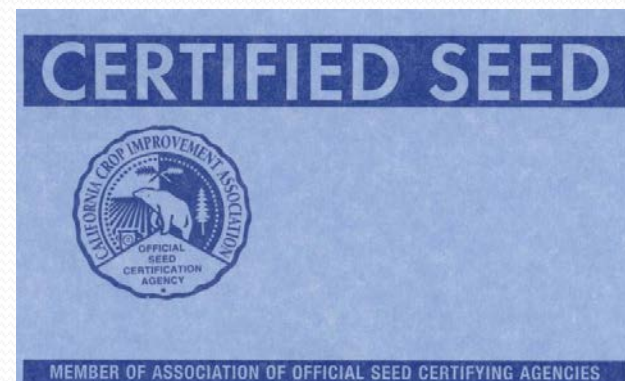
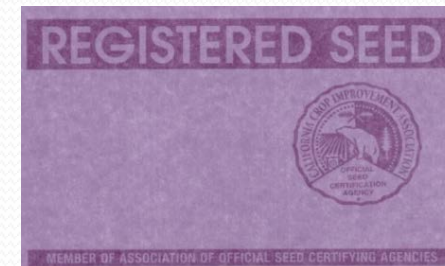
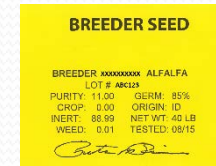


Main Activities and Services Provided by the CCIA:

- Traditional Seed Certification
 - Ensuring high levels of genetic purity, physical purity, and germination.
- OECD Seed Certification (for seed exports to the EU)
- Source Identified Program (for native seed collections and increases)
- Quality Assurance Programs
- Crop Isolation Mapping Programs for Seed Production

Seed Certification in a Nutshell:

- Limited generation pedigree system
- Three inspected classes
 - Foundation
 - Registered
 - Certified
- Fields and seed lots must meet minimum standards
- Seed fields inspected for off-types, other crops, weeds, and diseases
- Seed lots tested for purity and germination



Why another seed program?

- A number of specialty rice varieties in California are ineligible for certification.
 - Any variety, by definition, must be **uniform, unique & stable**.
 - For a variety to be eligible for certification, it must also have:
 - Known original developer and/or owner
 - Breeding history
 - Formal system of continuous maintenance of seed stocks from release
- Outside of a formal seed program, weedy rice proliferated in some of these non-certified varieties, as well as grower-saved seed in certified varieties.
- To stop the spread of weedy rice, the Marketing Order regulating CA rice production was updated in 2017 to require a 3rd party inspection system for all rice seed production. New regulations also prohibit grower saved seed.

Rice Identity Preservation regulation amendment – 3/13/17

- 2017 – “Equipment which has been used for planting, harvesting, drying and milling that enters California from a state that produces rice shall be subject to inspection for weedy rice by the county agricultural commissioner in the destination county prior to use.”
- 2017-2018 - Farm saved seed may be used but may not be sold (*note: you cannot save seed of varieties with Utility Patents*).
- 2019 – ALL rice planted in California must be either certified seed or seed from a third party quality assurance program approved by the Certification Committee (*note: varieties with PVP, Title V must be sold only as a class of certified seed even before this takes effect*).
- 2019 – Handlers shall require producer verification of planting certified seed or seed enrolled in a third party quality assurance program approved by the Certification Committee.

New in 2017:

Rice Seed 'Quality Assurance' Program

- The CCIA Rice Seed QA Program will provide a uniform and unbiased quality control system and marketing tool for rice varieties that cannot be verified and merchandised as a class of certified seed.
- QA program will have zero tolerance for weedy rice.
- CCIA's Rice Seed QA program was approved by the CA Rice Certification Act Advisory Board on 5/25/2017.
- Example varieties to include:
 - Koshihikari
 - Hitomebore
 - Akitakomachi



Rice Seed QA Program

Similar standards, different terminology

<u>Seed Certification</u>	/	<u>Quality Assurance Program</u>
Breeder seed	=	Breeder seed
Foundation	=	Basic (QA-1)
Registered	=	QA-2
Certified	=	QA-3



Field Standards Prevent Weedy Rice

- Previous Crop History Requirement - If field was planted to paddy rice or another variety previously, the field must be inspected the for one season before it is eligible to produce seed rice.
- All fields **must be free of weedy/red rice**, the weedy red grain type of *Oryza sativa*.
- All fields producing non-colored bran varieties must be free of colored bran rice.
- Fields may be refused certification due to unsatisfactory appearance caused by weeds or other conditions which prevent accurate inspections.



Field Inspections

- CCIA rice inspectors train their eyes on weedy populations in commercial fields.
- QA-1 and QA-2 fields inspected twice & QA-3 fields inspected once.
- Inspections during grain filling, between ~8/15 – 10/1,
- Suspicious off-type plants are pulled and immature kernels are checked to see if they stain red with KOH.



KOH Test

Field Inspections



- Watergrass *may* be difficult to discern from weedy rice at a distance; questionable plants are observed up close.
- Excessive weeds make adequate inspection difficult and fields or portions of fields may be rejected for seed.
- Max. Off-type Standard:

QA-1 (Basic)	QA-2	QA-3
1:10,000	1:5000	1:1000

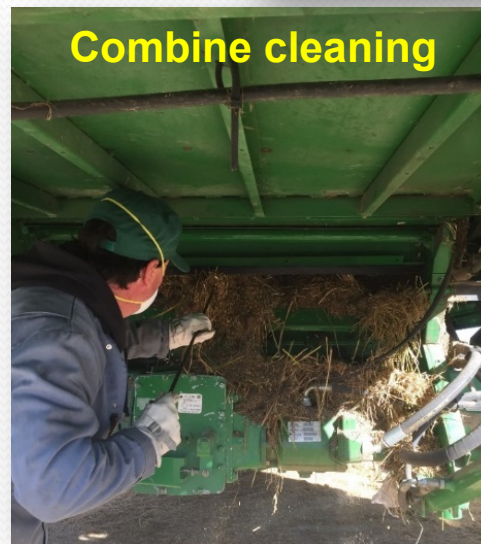
Seed Standards

- A representative sample of each lot is tested:
 - 500 gram sample of rice is hulled using a rice huller and the grains are inspected for the presence of red rice.
 - Zero tolerance for colored bran seed in non-colored bran varieties.



Seed Grower Responsibilities

- Aircraft or drill cleanout affidavit
- Weed control
- Cleanout of combines, bankout wagons, and trailers.
 - Ag. Com. Office must be contacted by either grower or seed company prior to harvest to request combine cleanout inspection.
- Cleanout of on-farm storage bins (when applicable)



Seed Conditioner Responsibilities

- Equipment and storage cleanout
- Maintaining identity of seed lots
- Representative sampling of seed lots
- Submission of samples to qualified seed laboratory



In Summary:

- The spread of weedy rice in CA was largely associated with grower saved seed and sale of non-certified specialty varieties.
- The Rice Seed QA Program was developed in 2017 to maintain purity of niche varieties not eligible for seed certification.
- Third party inspections will help ensure growers and conditioners that are handling QA and certified seed are fulfilling their role in producing quality seed.

Questions

