

Seed Cert. & Rice Seed QA Programs 2018 Observations and Outlook for 2019



Timothy Blank
California Crop Improvement Association
UCCE Weedy Rice Workshop – 8/1/2019

Topics of Discussion:

1. Overview of seed certification and QA programs
2. 2018 observations
3. 2019 outlook



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.



Rice Seed Certification and QA Programs

- Limited generation pedigree system
- Three inspected classes
- Seed fields and seed lots must meet minimum standards
- Seed fields inspected for off-types, other crops, weeds, and diseases
 - ZERO tolerance for weedy rice
- Seed lots tested for purity, germination, and red rice
 - ZERO tolerance for red rice in non-colored bran varieties



Generations in Certification and QA Programs

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



2019 – ALL Rice planted with either Certified seed or QA Seed

- A number of specialty rice varieties in California are ineligible for certification as the seed source was not officially from the variety developer.
 - Koshihikari, Hitomebore, Akitakomachi, many colored bran varieties, etc.
- 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.
- 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: most RES varieties have PVP protection with the Title V option selected, and can only be sold as a class of certified seed*).
- 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.

Code of California Regulations, Title 3, Division 4, Chapter 2, Subchapter 5. § 2852.5

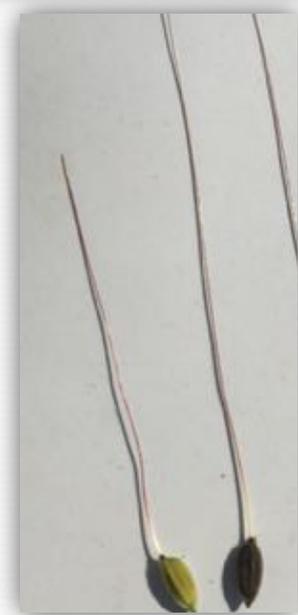
2018 Seed Field Observations

- Certified Seed Program
 - One seed field had a patch (12+ plants) of Type 1. The entire group of fields was rejected for seed certification as they were managed together. One field on this ranch was rejected for weedy rice in 2017 and the remainder passed as “Field Inspection Only” (not supposed to be used for seed).
- QA Program
 - Primary challenge is distinguishing colored bran off-types from colored bran weedy rice when inspecting colored bran varieties.
 - Extensive roguing efforts completed in colored bran varieties.
 - A non-colored bran specialty variety will be re-purified after a colored bran off-type (not necessarily weedy) was observed during test of seed lot.
 - Great progress made on producing clean seed of Japanese specialty varieties.



2018 Commercial Field Observations

- Type 1 remains very challenging and most widespread.
- Type 2 populations being diminished/eradicated in fields due to new seed program. A good seed program alone does not seem to eradicate this type, but helps.
- Type 3 – This type remains challenging and has persisted over a long period of time. It is more visible than Type 1. Persistence of this type is due to incomplete and/or late control.
- Type 4 – This type is the most elusive in the field and therefore very concerning. I have been closely observing control efforts in the two fields where it has been observed.
- Type 5 populations observed in 2016 are almost completely eradicated now that fields are being planted with Certified seed.
- Type 6 – Known to be present in one colored bran field. Initial observations seem to demonstrate very weedy traits.



Black hulled 'Type 6' in commercial field

2015-2019 Seed Acres

Certified Acres					
Year	Acres Applied	Acres Approved	Cancelled	Rejected	# Applications
2015	19486.3	17923.6	0	5	244
2016	25042	21793.9	63.3	221	294
2017	25091.3	20604.6	0	369	303
2018	26764.1	22056.3	0	170	332
2019*	25269.5	0	0	0	311

QA Acres					
Year	Acres Applied	Acres Approved	Cancelled	Rejected	# Applications
2017	1033.21	395.26	0	0	35
2018	975.42	875.62	0	0	33
2019*	526.6	0	0	0	16

*2019 figures are from 7/30/2019. 2019 acres are not final and applications are still being submitted.

2019 Field Inspections

- All seed production fields will be inspected by trained CCIA inspectors.
- CCIA inspectors can conduct test for presence of red rice with KOH test before grains are mature.
- Any fields with suspect red off-types will be reinspected by lead CCIA rice inspector (Timothy Blank).



In Summary:

- The Rice Seed QA Program was developed in 2017 to maintain purity of niche varieties not eligible for seed certification.
- Effective in 2019, all commercial production must be planted with seed from either seed certification or QA programs.
- Legitimate seed production fields passed in 2018 do not have weedy rice. Further spread, by planting seed, of weedy rice has effectively been stopped if there is compliance to the new regulations.

Questions

