

# 2014 AOSCA BMT Survey Questionnaire

AOSCA Agency	Crop Tested	Test Name	Species Tested	Is this test according to your rules a Final Certification Requirement for your Agency? (yes or no)	Is this test a Quality Assurance Requirement? (yes or no) If yes who is requiring the test?	Is this test a Identity Preserved Requirement? (yes or no) If yes, who is requiring the test?	Is this test an Additional Certification Requirement for your Agency? (yes or no) If yes who is requiring the test?	Is this a test to verify any Additional Quality or Related Attributes? (yes or no) If yes who is requiring the test?
Arkansas State Plant Board	Oat	Flourescence Test		No	No	No	No	Yes, Arkansas State Plant Board
Arkansas State Plant Board	Oat	Category Verification		Yes	No	No	Yes, Arkansas State Plant Board	
Arkansas State Plant Board	Rice	LibertyLink Bioassay (LL) 35S-bar PCR	Oryza Sativa	No	No	No	No	Yes, Arkansas State Plant Board
Arkansas State Plant Board	Soybeans	Peroxidase Test		Yes	No	No	Yes	Yes, Arkansas State Plant Board
Arkansas State Plant Board	Wheat	Phenol Test		No	No	No	No	Yes, Arkansas State Plant Board
Arkansas State Plant Board	Rice	Newpath Herbicide Test	Oryza Sativa	No	No	No	No	Yes, Arkansas State Plant Board
Arkansas State Plant Board	Wheat	Coleoptile Grow-Out Test		No	No	No	No	Yes, Arkansas State Plant Board
Arkansas State Plant Board	Soybeans	Hypocotyl Grow-Out Test		No	No	No	No	Yes, Arkansas State Plant Board

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Colorado Seed Growers	Wheat	clearfield confirm	hexaploid	yes	no	no	yes, BASF	no
Colorado Seed Growers	Wheat	KOH (potassium)	hexaploid	yes	no	yes	yes, purity test	no
Illinois	Soybean	herbicide tolerance	diploid	no	no	no	no	no
Illinois	Non-GMO Soybean	Immunoassay by Lateral Flow or Stick (LFS)	diploid	yes	no	yes, IL Crop	no	yes, IL Crop
Illinois	Corn	herbicide & insect tolerance Bioassay and ELISA	diploid	no	no	no	no	no
Illinois	Non-GMO Corn	PCR at ISO 17025:2005 accredited lab	diploid	yes	no	yes, IL Crop	no	yes, IL Crop

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Illinois	Oat	Fluorescence	hexaploid	yes*	yes*	yes, if presented with an IP program IL Crop would require	yes, IL Crop	yes, IL Crop

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Indiana	wheat	PAGE		no	no	no	no	no
Indiana	oats	PAGE		no	no	no	no	no
Indiana	barley	PAGE		no	no	no	no	no
Indiana	soybeans	Liberty Link		no	yes, trait provider	no	no	no
Indiana	soybeans	Roundup Ready		no	yes, trait provider	no	no	no
Indiana	soybeans	PCR		no	yes, end customer	yes, end customer	no	no
Indiana	soybeans	lateral flow strips		no	yes, end customer	yes, end customer	no	no
Indiana	corn	PCR		no	yes, end customer	yes, end customer	no	no
Indiana	corn	ELISA		no	yes, trait provider	no	no	no
Indiana	corn	Liberty Link		no	yes, trait provider	no	no	no
Indiana	corn	Isozyme		no	no	no	no	no
Indiana	corn	IEF		no	no	no	no	no
Maryland	Ryegrass	Fluorescence	Annual &	No	No	No	No	No
Maryland			Perennial					
Maryland	Soybeans	Round-up Ready		No	No	No	Yes, MDA	No
Maryland		Bioassay						
Maryland	Soybeans	Peroxidase		No	No	No	Yes, MDA	No
Maryland	Wheat	Phenol		No	No	No	No	No
Michigan	Soybean	Round up Bioassay		No	No	No	No	No
Michigan	Soybean	Non-GMO RR Bioassay		No	No	No	No	No
Michigan	Wheat	NaOH		No	No	No	No	No
Michigan		* other tests are used (outsourced) to aid in certification: wheat - electrophoresis, corn hybridization - genetic, electrophoresis, and growo						
Minnesota	Wheat	PAGE	Spring wheat	yes	yes, MClA	n/a	no	no
Minnesota	Ryegrass	Fluorescence	Perennial ryegrass	yes	n/a	n/a	no	no
Minnesota	Soybeans	DNA -non GMO	Soybeans	no	no	yes, MClA	no	no

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Mississippi	Rice	KOH Test (Potassium Hydroxide Test) - R		No	No	No	No	No
Mississippi	Rice	LL Bio-assay		No	Yes (Milles Buying	No	No	No
Missouri	Soybean	Peroxidase Stain		no	no	no	no	no
Missouri	Rice	KOH Stain		no	no	no	no	no
Missouri	Wheat	Phenol Stain		no	no	no	no	no
Missouri	Soybean	RoundupReady		no	no	no	no	no
Missouri	Soybean	STS		no	no	no	no	no
Missouri	Soybean	LibertyLink		no	no	no	no	no
Missouri	Rice	35S-bar		no	no	no	no	no
Missouri	Grass	Endophyte Stain	Tall Fescue	Yes	no	no	no	no
Montana	White Wht	KOH	Wheat	yes	no	no	no	no
Montana	Barley	BSMV	Barley	yes	no	no	yes, MSGA	no
North Dakota	Wheat	Clearfield Confirm		no	yes, BASF	no	no	no
North Dakota	Lentils	Clearfield Confirm		no	yes, BASF	no	no	no
North Dakota	Barley	Variety ID		yes	no	no	yes	no
North Dakota	Field Pea	Variety ID		yes	no	no	yes	no
North Dakota	HRSW	Variety ID		yes	no	no	yes	no
North Dakota	Oat	Variety ID		no	no	no	no	no
North Dakota	Soybean	AP		no	no	no	no	no
North Dakota	Soybean	AP		no	no	no	no	no
North Dakota	Soybean	AP		no	no	no	no	no
North Dakota	Soybean	RR tolerance		no	no	no	no	no
North Dakota	White wheat	KOH		yes	no	no	no	no
North Dakota	Spring/Winter wheat							
North Dakota		Vernalization gene		no	no	no	no	no

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Ohio	Soybeans	Peroxidase	Soybeans	No	No	No	No	No
Ohio	Soybeans	Herb. Bioassay	Soybeans	No	No	Yes, Exporter	No	No
Ohio	Seed Corn	ELISA	Seed Corn	No	No	No	No	No
Oklahoma	wheat	Clearfield confirm	hexaploid	yes	no	no	yes, OCIA BOD	no
Oregon	Wheat	Clearfield confirm	"Clearfield" varieties only	yes	no	no	y	no
Oregon	Hard, Sheep, Blue, Idaho Fescue	Ammonia test	Festuca: Trachyphylla, ovina, ovina subsp. Glauca, idahoensis	Yes	no	no	no	no
Oregon	Ryegrasses	fluorescence test	lolium	yes	no	no	no	no
Oregon	Ryegrasses	Allelic Discrimination (DNA) test	lolium	no	no	no	no	no
Oregon	Primarily ryegrasses	Ploidy Test	Could be used with any species that has multiple ploidy levels	yes, for tetraploid ryegrasses	no	no	no	no
Oregon	wheat	Sodium Hydroxide	wheat	yes	no	no	no	no
South Dakota	HRSW	Electrophoresis		Yes	Yes	Yes/SDCIA	Yes/SDCIA	Yes/SDCIA
South Dakota	HRWW	Electrophoresis		Yes	Yes	Yes/SDCIA	Yes/SDCIA	Yes/SDCIA
South Dakota	HWWW	Electrophoresis		Yes	Yes	Yes/SDCIA	Yes/SDCIA	Yes/SDCIA
South Dakota	OATS	Electrophoresis		Yes	Yes	Yes/SDCIA	Yes/SDCIA	Yes/SDCIA

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Texas	Rice	KOH Test (red rice)		no	no	no	no	no
Utah	wheat	Clearfield confirm	Wheat	yes	no	no	yes, BASF	yes, Additional perform
Utah	alfalfa	Additional Isolation	alfalfa	no	no	no	no	no
Virginia	wheat	Phenol		yes (VDACS seed lab)	yes (VDACS seed lab)	no	no	no
Washington CIA	wheat	Clearfield confirm	hexaploid	yes	no	no	yes, BASF	no
Washington DOA	wheat	Clearfield confirm	hexaploid	yes	no	no	yes, BASF	no
Wisconsin	CORN	RR		YES	NO	NO	yes	NO
Wisconsin		LL		YES	NO	NO	YES	NO
Wisconsin		ELISA		YES	NO	NO	YES	NO
Wisconsin	SOYBEANS	RR		YES	NO	NO	YES	NO
Wyoming	barley	barley streak mosaic virus	barley	yes				

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Arkansas State Plant Board	No		
Arkansas State Plant Board	No		
Arkansas State Plant Board	No	<0.01% at 95% CI	Not required for certification, but required of all rice planted in the state of Arkansas. Test is outsourced to one of eight testing laboratories.
Arkansas State Plant Board	No		If test fails, a class of "NO GRADE" is issued for the sample.
Arkansas State Plant Board	No		
Arkansas State Plant Board	No		This is not in our clean seed standards but we do check 200 seed for resistance and if a problem was found we could deny class based on excessive other varieties.
Arkansas State Plant Board	No		Wheat coleoptile test, grow-out test to determine presence or absence of anthacyin. If present coleoptile will be purple to red in color, clear if absent. Could deny class if enough are wrong color.
Arkansas State Plant Board	No		Soybean hypocotyl test, grow-out test to determine if hypocotyl is purple which would indicate purple flowers. Green or bronze would indicate plant would have whites flowers. Could deny class if too many are wrong color for variety being tested.



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Colorado Seed Growers	no	92% tolerance	Clearfield test is a certification requirement for
Colorado Seed Growers	no	based on description	KOH is a test of varietal purity, addition of KOH solution to a sample the analyst can determine visually if there are contaminants present in the seed sample.
Illinois	no	by license agreement	All soybean trait purity requirements are specified in licensing agreements.
Illinois	yes, IL Crop	Varies by market	IL Crop has no current IP Non-GMO Grain Programs
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Illinois	no	Varies by market	IL Crop has no current IP Non-GMO Grain Programs

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Illinois	yes, if presented with an IP program IL Crop would require	Other Variety Seed Standards, AOSCA & IL Crop Certification Standards*	*While the method may not be considered a BMT it does rely on the biology and molecular makeup of the organism. The Fluorescence (FL) test is used to determine other varieties is not specified in the AOSCA or IL Crop Standards the FL test is used to determine if the maximum other varieties has exceeded the standard or has exceeded the allowance. Tolerance tables are not used since the standard is written as maximum and the desired tolerance is built into the standard. The standard does not preclude sequential testing, same as the field inspection standard.

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Indiana	no		used to verify variety identity when necessary
Indiana	no		used to verify variety identity when necessary
Indiana	no		used to verify variety identity when necessary
Indiana	no	98%	trait provider requirement
Indiana	no	98%	trait provider requirement
Indiana	yes, end customer	less than 0.1%	non-gmo requirements
Indiana	no	less than 0.25%	non-gmo requirements
Indiana	yes, end customer	less than 0.1%	non-gmo requirements
Indiana	yes, trait provider	96%	used for Bt traits, trait provider requirement
Indiana	yes, trait provider	96%	trait provider requirement
Indiana	no	97%	used to verify hybrid purity when necessary
Indiana	no	97%	used to verify hybrid purity when necessary
Maryland	No	None	
Maryland			
Maryland	No	Pass/Fail	
Maryland			
Maryland	No	Pass/Fail	
Maryland	No	None	
Michigan	No	98% resistant	Service offered to customer for Monsanto audit requirement
Michigan	No	N/A	Service for Non-GMO verification of conventional and Liberty Link soybeans
Michigan	No	N/A	Aid for visueal identification of red/white wheat
Michigan	uts		
Minnesota	no	pass/fail	100 bulk seeds
Minnesota	no	3% above the VFI allowed in	Grow out or DNA testing can be used if seed
Minnesota	no	99.5% non-GMO	Current traits tested: RR and Liberty

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Mississippi	No	Pass/Fail	Used to confirm Red Rice
Mississippi	No	Pass/Fail	Must Pass Test before Rice Mills will buy prod
Missouri	no	N/A	1 tool used for varietal identification
Missouri	no	N/A	Used to verify the presence (absence) of red
Missouri	no	N/A	1 tool used for varietal identification
Missouri	no	99%	Used to verify compliance with company requ
Missouri	no	99%	Used to verify compliance with company requ
Missouri	no	99%	Used to verify compliance with company requ
Missouri	no	N/A	Used to verify absence of LL trait per Arkansa
Missouri	no	95%	Used to verify level of live (viable) endophyte
Montana	no	other variety standards	Test is currently done on all hard white and s
Montana	no	Pass/Fail	Test done on early generation only or interag
North Dakota	no	92%	Bioassay
North Dakota	no	92%	Bioassay
North Dakota	no	P/F	PCR-DNA
North Dakota	no	P/F	PCR-DNA
North Dakota	no	P/F	PAGE-electrophoresis
North Dakota	no	P/F	PAGE-electrophoresis
North Dakota	no		ELISA-Quantitative
North Dakota	no		PCR-Qualitative
North Dakota	no		Strip-Qualitative
North Dakota	no	95%	Bioassay
North Dakota	no		% based on variety description/variants
North Dakota			
North Dakota	no	P/F	customer request to distiguish SW/WW

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Ohio	No	Pass/Fail	Only used on questionable seed lots.
Ohio	Yes, Exporter	Variable	Used for testing presence of GMO herbicide t
Ohio	No	Pass/Fail	Used for testing presence of herbicide or inse
Oklahoma	no	92% tolerance	Clearfield test is a certification requirement f
Oregon	no	92% tolerance	Test Conducted by OSU Seed Lab
Oregon	no	certified 2% yellow fluoresce, registered 1 fluorescing seed, foundation 0	Test also conducted on chewings and red fescue as informational, but not as part of a certification requirement. Test conducted by OSU Seed Lab.
Oregon	no	Perennial 3% plus VFL. Annual 2% and VFL	Test Conducted by OSU Seed Lab
Oregon	no	3% annual ryegrass in perennial, 2% perennial ryegrass in annual	Used in lieu of a Grow Out Test upon customer request. Each seed lot must have an initial fluorescence test first. Test conducted by Grass Genomics Testing.
Oregon	no	Ploidy test minimum: 95% certified, 99% registered, 100% foundation. Test conducted by OSU Seed Lab	Distinguishes tetraploid from diploid varieties
Oregon	no	Variety variant level	Red kernals in white wheat and white kernals in red wheat are tested.
South Dakota	no	Pass/Fail	
South Dakota	no	Pass/Fail	
South Dakota	no	Pass/Fail	
South Dakota	no	Pass/Fail	

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Texas	no	No red rice allowed in fields for all classes. No red rice allow in a 10 pound sample submitted to TDA for Foundation or Registered. One red rice is permitted in a 60 pound sample submitted to TDA for Certified seed.	The KOH Test is used both in the field and seed laboratory by TDA personnel to identify red rice. The test itself is not mentioned in the Texas Seed and Plant Certification Act and Standard, but there are restrictions for red rice in Texas Seed and Plant Certification Act and Standard.
Utah	no	92% tolerance	In one case a foundation seed lot failed the c
Utah	yes, Forage Geneti	pass/fail - does or does not n	I realize this is not a really a BMT but thought
Virginia	no	AOSA	Test is performed by the State Seed Lab for a
Washington CIA	no	92% tolerance	Clearfield test is a certification requirment fo
Washington DOA	no	92% tolerance	Clearfield test is a certification requirment fo
Wisconsin	NO	98	
Wisconsin	NO	96	
Wisconsin	NO	87/90	
Wisconsin	NO	98	
Wyoming			Required on F and R classes, typically conducted by the MSU seed laboratory.