

Winter Wheat

Spring Wheat

Spring Barley

Washington State University

Department of Crop and Soil Sciences

in cooperation with

**Washington State Crop Improvement Association** 

2575 NE Hopkins Ct.
Pullman, WA 99163
509-334-0461
washingtoncrop.com

---- PRECIPITATION ZONE (INCHES) ----

------ AGRONOMIC RATINGS (1 = Best to 9 = Poorest) -

			<12"	12-16"	16"-20"	>20"	Irrig.	TEST									СЕРН.			SOIL BORNE		ı
VARIETY	ORIGINATOR	RELEASE DATE		BU/A Yield	l as a % of 2-Y	r Trial Mean		WEIGHT (LBS/BU)	PROTEIN (%)	PLANT HEIGHT	MATURITY	LODGING	EMERG- ENCE	WINTER SURVIVAL <sup>‡</sup>	ALUM. TOLER. <sup>A</sup>	STRIPE RUST <sup>†</sup>	STRIPE TOLER.	STRAW- BREAKER	SNOW MOLD	MOSAIC VIRUS V	FALLING NUMBER <sup>F</sup>	END-USE QUALITY Q
AP Exceed	Agripro/Syngenta	2020	101 <sup>§</sup>	105	102	102	104	62.2	10.2	Short-Med.	Early-Med.	1	3	3		R			3		4	MD
AP Iliad	Agripro/Syngenta	2020		91	97	98	101	61.7	10.9	Medium	Early-Med.	1		6	MTS	R	6	6		R	3	Α
Curiosity CL+	WSU	2013	91	96				62.6	10.8	MedTall	MedLate	5	1	2	S	MS	5	7	2	S <sup>V</sup>	7	A
Devote	WSU	2019	100	95				63.1	10.8	Medium	Medium	1	2	2	S	MS	6	4	2	S <sup>V</sup>	6	D
GS Bounty	Geneshifters	2022	103 <sup>§</sup>	104	106	104	108	61.2	11.0	MedTall	Medium	1	3	4	MT	MR			4			
LCS Artdeco	Limagrain Cereal	2011			95 <sup>§</sup>	94 <sup>§</sup>	99	60.3	10.3	MedShort	Early-Med.			6	S	R	4	9		S	6	Α
LCS Blackjack	Limagrain Cereal	2019		104	107	104	113	60.2	10.6	Short-Med.	Medium	1		4	MTS	R	5	1	6	S	6	D
LCS Hulk	Limagrain Cereal	2017	101	100	103	101	107	62.1	10.9	Medium	Medium	1	4	3	MTS	R	7	9	5	S	3	A
LCS Hydra AX	Limagrain Cereal	2022	101 <sup>§</sup>	97 <sup>§</sup>	90 <sup>§</sup>	93 <sup>§</sup>	92 <sup>§</sup>	63.4	10.8	Medium	Medium		7	4		MS			6			
LCS Jefe	Limagrain Cereal	2022	102	106	103	102	101	61.7	9.8	Medium	Medium	1	8	3	Т	R			9	S	8	D
LCS Kamiak	Limagrain Cereal	2023	100	100	109	100	102	61.6	11.0	Medium	Early-Med.	1	5	3	S	R			9		5	Α
LCS Kraken AX	Limagrain Cereal	2022	104 <sup>§</sup>	100 <sup>§</sup>	93 <sup>§</sup>	96 <sup>§</sup>		61.9	11.1	MedTall	Medium		5	2		MR			4			
LCS Reaper II AX	Limagrain Cereal	2023	93 <sup>§</sup>	99§	95 <sup>§</sup>	93 <sup>§</sup>	86 <sup>§</sup>	63.2	11.2	Medium	Early			4		MR			3			
LCS Scorpion AX	Limagrain Cereal	2023	98 <sup>§</sup>	100 <sup>§</sup>	99 <sup>§</sup>	96 <sup>§</sup>		61.8	10.7	Medium	Medium		8	5		R			7			
LCS Shine	Limagrain Cereal	2019	110	106	104	104	103	61.6	10.0	Short	Early-Med.	1	8	3	MT	R	4		5	S	5	MD
Norwest Duet	OSU/Limagrain	2015	103	108	102	105		61.5	10.8	Tall	MedLate	1	5	3	MT	R	3	8	5	S	2	D
Norwest Tandem	OSU/Limagrain	2016	108	105	101	99	97	61.4	10.7	Short	Early-Med.	1	4	3	S	R	4	3	6	S	3	Α
Piranha CL+	WSU	2020	106	109	103	104	96	62.1	10.7	MedTall	Medium	4	4	2	MTS	MR	4	6	3	S <sup>V</sup>	6	D
Resilience CL+	WSU	2016			99	96		62.3	11.5	Medium	Medium	1		5	S	R	5	3		$R^V$	3	D
Sockeye CL+	WSU	2020	117 <sup>§</sup>	114 <sup>§</sup>	108	106	98	61.6	10.4	MedTall	Medium	5	4	2	MT	R	5	5	3	S <sup>V</sup>	7	MD
Stingray CL+	WSU	2018	104	102	102	101	94	61.2	11.4	Medium	Medium	1	6	6	Т	MR	4	5	4	s <sup>v</sup>	1	D
SY Assure	Agripro/Syngenta	2016			100	98		62.8	11.0	Short-Med.	Early	1	5	6	MT	R	5	9		S	6	D
SY Dayton	Agripro/Syngenta	2017			99	99	93	61.5	10.6	Short-Med.	Medium	1	5	5	MT	R	5	7		R	7	Α
TMC M-Pire	The McGregor Co.	2022	102 <sup>§</sup>	102	104	95	100	62.3	10.4	Short	Early-Med.	1	6	6	MTS	MR			5			D
TMC M-Press	The McGregor Co.	2017	101	106	105	98	101	61.7	10.5	Medium	Medium	1	5	5	MT	R	8	4	7	MR	7	D
VI Voodoo CL+	Limagrain/UI	2020		95	104	95	93	61.5	10.9	Short	Medium	1		9	MT	S	6	6		S	7	D
WB1621	Westbred/Bayer	2022	106 <sup>§</sup>	110 <sup>§</sup>	100	99	98 <sup>§</sup>	63.4	10.5	Medium	Medium	2	1	4	MT	R			5	MS		MD
		Trial Mean	41	87	105	119	137	61.8	10.8													
SOFT WH	SOFT WHITE CLUB WINTER WHEAT																					
Cameo	USDA-ARS/WSU	2022			99	101		60.6	11.6	MedTall	MedLate	2		5	MT	R	6	4		S	5	MD

### HARD RED WINTER WHEAT

USDA-ARS/WSU

USDA-ARS/WSU

USDA-ARS/WSU

2017

2012

2015

Trial Mean

99

89

41

106

96

101

87

83

87

105

DECIDITATION ZONE (INCHES)

97

93

119

137

61.4

61.0

62.0

61.8

10.5

10.9

10.9

10.8

Med.-Tall

Med.-Tall

Medium

													AGRONOMIC RATINGS (1 = Best to 9 = Poorest)									
VARIETY	ORIGINATOR	RELEASE DATE	<12"	12-16" Yield as a	>16" a % of 3-Yr Tri	al Mean	Irrig. -	TEST WEIGHT (LBS/BU)	PROTEIN (%)	PLANT HEIGHT	MATURITY	LODGING	EMERG- ENCE	WINTER SURVIVAL ‡	ALUM. TOLER. <sup>A</sup>	STRIPE RUST <sup>†</sup>	CEPH. STRIPE TOLER.	STRAW- BREAKER	SNOW MOLD	SOIL BORNE MOSAIC VIRUS <sup>V</sup>	FALLING NUMBER <sup>F</sup>	END USE QUALITY <sup>Q</sup>
Keldin	Bayer/WestBred	2011	106	103	101		99	62.9	11.6	Medium	Medium	4	3	3	S	MS	7	8	5			D
LCS Eclipse AX	Limagrain Cereal	2022	111 <sup>§</sup>	98 <sup>§</sup>	100 <sup>§</sup>		112 <sup>§</sup>	60.5	10.6	Medium	Medium		5	6		R			6			
LCS Jet	Limagrain Cereal	2014	101	102	101		108	61.2	12.1	Short-Med.	Medium	1	4	6	S	S	6	1	5	S	4	Α
Scorpio	WSU	2019	105	107	107		99 <sup>§</sup>	61.3	12.1	Short-Med.	Medium	1	5	6	Т	MS	4	7	4	S <sup>V</sup>		MD
Sequoia	WSU	2015	93 <sup>§</sup>					62.1	11.4	Tall	MedLate		3	4	S	MS			5	s <sup>v</sup>		D
WB4303	WestBred/Bayer	2016	111 <sup>§</sup>	100	100		101	61.5	12.1	Medium	Early-Med.	2	5	3	Т	S	8	6	4	R	6	Α
		Trial Mean	40	80	98		138	61.9	11.9													

Medium

Med.-Late

Medium

#### KEY

Castella

Pritchett

ARS-Crescent

- --: Information not available or variety was not common to data set.
- §: Only 1 year data available
- \*: Winter Survival Index based on Variety Testing field observations and laboratory studies conducted by USDA-ARS, Pullman, WA.
- A: Aluminum Tolerance Scale Key: 1 = T (Tolerant); 1 = MT (Mostly Tolerant); 3 = MTS (Mostly Tolerant/Susceptible); 4,5 = S (Susceptible); Aluminum Tolerance ratings based on data taken by Dr. Mike Pumphrey at low pH field site in Eastern Washington.

- †: Stripe Rust Key: R = Resistant; MR = Moderately Resistant; M = Moderate; MS = Moderately Susceptible; S = Susceptible. Disease ratings can change and should be used as relative comparisons. Stripe rust ratings are based on data from Dr. Xianming Chen at USDA-ARS, Pullman, WA.
- <sup>V</sup>: Indicates Soil Borne Mosaic Virus Resistance ratings based on genetic marker

Т

S

R

MR

ACPONOMIC PATINGS (1 = Bost to 9 = B

5

5

4

6

5

S

R

4

8

MD

MD

D

- F: Falling number rankings are based on all data collected 2015-2022. Varieties more resistant to FN reduction due to preharvest sprouting or late-maturity alpha amylase are ranked 1-5.; varieties ranked 6-7 are intermediate, and varieties ranked 8+ will frequently have low FN in event environments. For more information about Falling Number events and data, visit steberlab.org.
- Q: For Quality Rating key, see Spring Wheat page in this guide.

PRECIPITATION ZONE (INCHES)	AGRONOMIC RATINGS (1 = Best to 9 = Poorest)
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SOFT WHITE VARIETY	COMMON ORIGINATOR	RELEASE DATE Yield as a '	<12" % of 2-Yr	12"-16" TRIAL MEAN	16"-20"	>20"	IRRIGATED	FALL PLANT IRRIGATED 3-Yr MEAN	TEST WEIGHT (LBS/BU)	PROTEIN (%)	PLANT HEIGHT	MATURITY	WINTER SURVIVAL <sup>‡</sup>	LODGING	ALUM. TOLER. <sup>A</sup>	STRIPE RUST <sup>†</sup>	HESSIAN FLY <sup>H</sup>	FALLING NUMBER <sup>F</sup>	END-USE QUALITY <sup>Q</sup>
AP Mondovi CL2	Agripro/Syngenta	2019	96	92	90	91			60.7	12.1	MedTall	Medium	7	3	S	MS	MR		MD
Louise	WSU	2004	103	97	93	93			60.7	10.3	MedTall	MedLate		7	S	MR	R	3	MD
Ryan	WSU	2015	100	104	107	103	89		61.4	10.8	Medium	Early	6	6	Т	MR	R	4	MD
Seahawk	WSU	2014	99	96	100	99	98		61.5	10.7	Medium	MedLate	3	6	T	R	R	5	MD
Tekoa	WSU	2015	107	103	99	103	114		61.7	10.5	Medium	MedLate	9	3	Т	R	R	4	MD
WB6211CLP	WestBred/Bayer	2021	89	97	93	94			59.7	11.3	Short-Med.	Early-Med.	8	1	S	S	R		Α
SOFT WHITE	CLUB		Yiel	d as a % of 2-Y	r TRIAL MEA	AN													
Hedge CL+	WSU	2020	105	95	97	100			62.1	10.9	MedTall	MedLate	8	7	MTS	MR	S		MD
Melba	WSU	2016	101	103	99	101	99		61.2	10.3	Short-Med.	MedLate	8	4	S	R	S	5	MD
Roger	WSU	2022	94	106	104	103	93		62.5	10.1	Short-Med.	Early-Med.		7	S	MR	R		MD
		TRIAL MEAN	74	61	49	27	120		61.5	10.8									
HARD RED			Yie	ld as a % of 4-	r TRIAL ME	AN													
Alum	WSU	2014	100	101	103	111			62.0	13.3	Medium	Medium		6	MT	R	R	3	MD
AP Venom	Agripro/Syngenta	2020					105	108			Medium	Medium	5	1	S	S	MR		
Chet	WSU	2014	97	98	99	112			62.4	13.8	Tall	Medium	7	8	MT	R	R	9	MD
Hale	WSU	2021	112	108	105	111			62.4	13.7	MedTall	Medium		6	S	R	R		MD
Kelse	WSU	2008	96	101	101	105			61.7	13.9	MedTall	Medium	5	1	S	R	MS	3	D
Net CL+	WSU	2019	100	103	101	115			62.5	13.5	Medium	MedLate	8	7	S	R	MR		MD
WB9303	WestBred/Bayer	2021	98	88	91	66			61.3	15.3	Short-Med.	Early	4	1	S	R	MS		D
WB9662	WestBred/Bayer	2018					100	96			Short-Med.	Medium	3	1	MT	S	R		LD
WB9668	WestBred/Bayer	2014	97	95	94	83	97	88	61.8	15.4	Short-Med.	Early-Med.	8	2	Т	R	MR	1	D
		TRIAL MEAN	63	53	43	21	118	125	62.0	14.1									

#### <sup>Q</sup>:Quality Ratings:

Most Desirable (MD)—These varieties generally have high test weights, appropriate protein content (kernel properties), and excellent milling and end-use properties.

Desirable (D)—The kernel, milling, and end-use qualities of these varieties range from good to very good. The quality attributes of these varieties are desirable in international trade.

Acceptable (A)—The kernel, milling, and end-use qualities of these varieties range from acceptable to good. Individual varieties may possess minor flaws. The quality attributes of these varieties are acceptable in international trade.

Least Desirable (LD)—One or more critical flaws in quality are present in these varieties. The intrinsic quality of PNW wheat will be improved if these varieties are not planted.

Unacceptable Except Customer-Specific Uses (UCS) --- One or more critical flaws in quality are present in these varieties and will not make suitable products for this class of wheat. Production of these varietes should be targeted to specific enduses and kept strictly segregated from general commercial channels.

<sup>--:</sup> Information not available or variety was not common to data set.

<sup>\*:</sup> Winter Survival Index based on Variety Testing field observations and laboratory studies conducted by USDA-ARS, Pullman, WA.

A: Aluminum Tolerance Scale Key: 1 = T (Tolerant); 1 = MT (Mostly Tolerant); 3 = MTS (Mostly Tolerant/Susceptible); 4,5 = S (Susceptible); Aluminum Tolerance ratings based on data taken by Dr. Mike Pumphrey at low pH field site in Eastern Washington.

<sup>†:</sup> Stripe rust ratings are based on data from Dr. Xianming Chen, USDA-ARS, Pullman, WA. Disease Scale R = Resistant; MR = Moderately Resistant; M = Moderate; MS = Moderately Susceptible; S = Susceptible. Disease ratings are based on recently observed disease symptoms but data are limited in scope. Disease ratings can change and should be used as relative comparisons.

# IS CERTIFIED SEED?

There are three recognized classes of Certified Seed:

**Certified Class** (blue tag), is most widely available and is typically what a farmer will plant to produce a commercial crop. It is usually grown from

Registered Class (purple tag), which is available in moderate quantities but is not usually directly available to produce commercial crop. Registered seed is usually grown from

**Foundation Class** (white tag) is available in the lowest quantities, from the variety originator or their designated agent.

Certification is administered by designated authorities providing field and seed inspection services for seed growers and dealers. Nearly every state in the U.S. has an entity designated to certify seed, and they are part of a global organization to administer uniform seed standards. In Washington, there are two entities offering seed certification services:

Washington State Department of Agriculture (WSDA) certifies grass, vegetables, canola, corn, wildflowers, hemp, and many other crops. Learn more: https://agr.wa.gov/services/inspections-and-investigations/inspections/seed, or 509-249-6950.

Washington State Crop Improvement Association (WSCIA) certifies wheat, triticale, barley, oats, rye, peas, chickpeas, lentils, buckwheat, sorghum, and forest reproductive material. Learn more: washingtoncrop.com, or 509-334-0461.

#### Does all seed have to be certified?

No, not all seed has to be certified, but some varieties require it. Uncertified seed is often referred to as "common." All seed, certified or common, must be labeled with germination, purity, other required analysis results, and other information (see WAC 16-301-015).

#### How do I know if a variety must be certified?

Varieties with PVP Title V protection can only be sold as certified seed (not common). Certification may also be required as a contract term in agreements made with seed companies. If you are unsure if a variety must be certified or if you can save seed, it is best to check with your seed dealer and/or the variety owner.

## Each class of seed is held to specific standards throughout the certification process.

All Washington certification standards can be found in Washington Administrative Code (WAC) 16-302.



Each **field** producing certified seed is:

- Planted from an approved higher-class seed lot known to represent the variety
- Held to specific standards for past crop history
- Inspected by designated agency at least once prior to harvest



**Seed** from inspected fields is:

- Conditioned only at approved facilities
- Tested by WSDA Seed Program
- Evaluated by designated agency to confirm it meets standards for purity, germination, and other required analyses.

Seed is only "certified" when conditioning, sampling, testing, and labeling are complete.

Seed that has only been field inspected is not certified seed.

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## **SPRING BARLEY**

			PRECIPITA	ATION ZONE	(INCHES)	AGRONOMIC RATINGS (1 = Best to 9 = Poorest)								
VARIETY	ORIGINATOR	RELEASE DATE	<16" Yield as	16"-20" a % of 3-Yr T	>20" rial Mean	TEST WEIGHT (LBS/BU)	PROTEIN (%)	PLUMP (%)	PLANT HEIGHT INCHES	MATURITY	STRIPE RUST †	HESSIAN FLY <sup>H</sup>	LODGING L	
BC Lexy M	Limagrain Cereal Seeds		104	116	137	49.8	10.0	91	Medium	Medium	1	S	1	
LCS Odyssey <sup>M</sup>	Limagrain Cereal Seeds	2015	101	99	102	50.7	10.6	91	Medium	Medium	2		1	
LCS Opera <sup>M</sup>	Limagrain Cereal Seeds	2019	98	100	101	50.0	10.2	85	Medium	MedLate	1		1	
Lenetah	UI	2007	97	90	97	52.8	10.7	88	MedTall	MedLate	1	S	3	
Survivor	WSU	2017	93	85	96	52.5	11.6	89	Medium	Medium	1	S	3	
			40.45	4505	0.477	E4 0	44.4	0.4						

M: Malting barley

**VARIETY PERFORMANCE RESULTS:** The information provided in this buying guide is the result of a cooperative effort among WSCIA, WSU, USDA-ARS and private seed companies. Plant height and test weight are averages of all test sites. Unless otherwise noted, yield data displayed for wheat and barley is based on averages of 2021 through 2023 data from testing sites of WSU's Extension Cereal Variety Testing Program. The % protein (12% moisture basis) and yield performance are summarized within several precipitation zones including irrigated. Barley is not tested under irrigation.

Yield values are listed as a percent of the trial mean. Actual average yield values are listed for the trial mean at the bottom of each market class section. Information on variety performance at specific locations in individual years can be found at: http://smallgrains.wsu.edu/variety. All agronomic and end-use quality ratings can be found under variety characteristic tables.

#### WHERE TO BUY CERTIFIED SEED

Most of the varieties included in this guide are available as Certified class seed to plant to produce a commercial crop. Newer releases (dated 2022 and 2023) may only be available as Foundation or Registered for the first couple of years, as seed dealers increase their supplies in order to commercialize the variety.

If you are interested in a particular variety, you can use the WSCIA Seed Source List to find out what dealers of certified seed may have it available this season. The lists from the 2023 production year, and prior years, can be accessed at

washingtoncrop.com/seed-source-lists



<sup>--:</sup> Information not available or not relevant to data set

<sup>†:</sup>Stripe rust ratings are based on data from Dr. Xianming Chen, USDA-ARS, Pullman, WA. Disease Scale Key: 1,2 = Resistant; , 4 = Moderately Resistant; 5 = Moderate; 6, 7 = Moderately Susceptible; 8, 9 = Susceptible

H: Hessian Fly ratings conducted in controlled growth chamber at University of Idaho

L: Lodging rating limited to one site-year

### Washington Conditioners and Sellers of Certified Seed

SNOHOMISH COUNTY

OF FIELD PEA,
LENTIL, CHICKPEA,
and/or SMALL GRAIN

509-488-9983
509-677-3441
509-660-0086
509-488-3977
509-659-0130
509-382-9178
509-525-6510
500 745 0554
509-745-8551
509-632-5238
)-572-5932/509-234-2641
509-269-4241
509-234-4433
509-234-2500
509-787-3511
509-346-9454
509-787-1561
509-766-9894
509-349-8893
509-749-2237
509-349-8094
509-345-2551
509-253-4604
509-639-2431
509-647-5510
509-725-7081
509-796-2575
509-639-2293
509-982-2975

Marine View Farms, Stanwood	360-303-3916
SPOKANE COUNTY	500 202 2506
Custom Seed Conditioning, Inc., Elk (Portable)	
Pacific Northwest Farmers Cooperative, Fairfield	
Spokane Seed Company, Spokane	509-535-3671
WALLA WALLA COUNTY	
Blue Mountain Seed, Inc., Walla Walla	509-529-3366
McGregor Seed, Clyde	509-749-2237
Northwest Grain Growers, Inc., Walla Walla	509-525-6510
WHITMAN COUNTY	
Columbia Grain, Pullman	509-332-1000
Hager Seed Processing, Inc., Oakesdale509-9	99-SEED/509-285-4243
Ardent Mills, Pullman	
Ardent Mills, Steptoe	
Inland Empire Milling Co., St John	
McKay Seed Company, LLC, Rosalia	509-523-3471
Northwest Grain Growers, Inc., Garfield	509-635-0107
Pacific Northwest Farmers Cooperative, Chambers	509-334-4632
Pacific Northwest Farmers Cooperative, Garfield	
Pacific Northwest Farmers Cooperative, Oakesdale	509-285-5516
Pacific Northwest Farmers Cooperative, Rosalia	509-523-3511
Pacific Northwest Farmers Cooperative, Steptoe	509-397-4664
RMK Farms, Inc., Oakesdale	509-285-5521
Spokane Seed Company, Colfax	509-397-4613
Stateline Processors, Inc., Tekoa	509-284-4101
Uniontown Cooperative Assn., Uniontown	509-229-3828
Northwest Grain Growers Inc., St John	
WSCIA Foundation Seed Service, WSU Seedhouse, Pullma	an509-592-4515

BUY CERTIFIED SEED OF THE
VARIETY AND BRAND PREFERRED
FROM YOUR SEED DEALER

**LIMITATION OF LIABILITY** Varietal information published in this guide is not the responsibility of WSCIA. Research and testing of crops herein listed have been performed by various public institutions, and private business organizations. Because of variation in testing procedures, research data analysis, and other factors out of the control of WSCIA, data comparisons in this publication are for guidelines only, and variety originators are solely responsible for data supplied to WSCIA. Potential seed users, therefore, should contact variety originators for additional comparison information on this published data.

CERTIFYING AGENCY ISSUE OF CERTIFICATE The issuance by Washington State Crop Improvement Association, the certifying agency, of a certificate seed label or certificate for a lot of seed affirms solely that such seed properly identified by a dealer, grower, or distributor, has been subjected to the seed certification standards and procedures implemented by the certifying agency and that the certifying agency has acted in accordance with such standards and procedures. The standards and procedures do not provide for inspection of each plant or all the areas in the seed grower's field. Therefore, seed that is certified may contain contaminates, even though the certifying agency has properly subjected the seed to the officially accepted standards and procedures. Furthermore, during harvest, storage, transportation, and the conditioning process, activities beyond the control of the certifying agency may interfere with the seeds' purity. The seed grower is required to have knowledge of the officially accepted standards and procedures for certification. The seed grower is responsible to maintain the purity and identity of seed harvested and/or farm stored. The seed conditioner is responsible for and required to have knowledge of the officially accepted standards and procedures, including the standards and procedures for conditioning, sampling, and final certification. It is the seed conditioner's responsibility to maintain the purity and identity of seed conditioned, stored, transhipped, or labeled. The issuance of a certified seed label or certificate of a lot of seed, therefore, neither warrants that any other person or entity has acted in accordance with such standards and procedures, nor constitutes any other warranty, expressed or implied, with respect to yield, quality, vigor, incidence of off-types or other contaminating seeds, or tolerance to diseases, insects, or growing conditions, or any other characteristics of the seed.