United States Department of Agriculture

Federal Crop Insurance Corporation

FCIC-25430 (06-2015)

SMALL GRAINS LOSS ADJUSTMENT STANDARDS HANDBOOK

2016 and Succeeding Crop Years

UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C. 20250

TITLE: SMALL GRAINS LOSS ADJUSTMENT STANDARDS HANDBOOK	**NUMBER: 25430**
EFFECTIVE DATE: 2016 and Succeeding Crop Years	**ISSUE DATE: June 23, 2015**
SUBJECT: **Provides the procedures and instructions for administering the Small Grains crop insurance program**	**OPI: Product Administration and Standards Division** **APPROVED:** **/S:/** ***Tim B Witt*** **Deputy Administrator for Product Management**

REASON FOR ISSUANCE

Major changes: See changes or additions in text which have been highlighted. Three stars (***) identify information that has been removed.

1. Deleted references to malt barley endorsement and incorporated references to the 2016 Malting Barley (Pilot) Endorsement Insurance Standards Handbook for instructions for malting barley.

2. **Exhibit 3, item 23 and 24 appraisal instructions:** Clarified instructions when "no remaining or harvestable heads are in the representative sample area, or the heads have 0 kernels."

SMALL GRAINS LOSS ADJUSTMENT STANDARDS HANDBOOK

CONTROL CHART

Small Grains Loss Adjustment Standards Handbook							
	TP Page(s)	TC Page(s)	Text Page(s)	Exhibit Number	Exhibit Page(s)	Date	Directive Number
Insert	Entire Handbook						
Current Index	1-4	1-2	1-23	1	24	06-2015	FCIC-25430
				2	25	06-2015	FCIC-25430
				3	26-30	06-2015	FCIC-25430
				4	31-34	06-2015	FCIC-25430
				5	35-40	06-2015	FCIC-25430
				6	41-66	06-2015	FCIC-25430
				7	67	06-2015	FCIC-25430
				8	68	06-2015	FCIC-25430
				9	69	06-2015	FCIC-25430
				10	70	06-2015	FCIC-25430
				11	71	06-2015	FCIC-25430
				12	72	06-2015	FCIC-25430
				13	73	06-2015	FCIC-25430
				14	74	06-2015	FCIC-25430
				15	75-77	06-2015	FCIC-25430
				16	78	06-2015	FCIC-25430
				17	79	06-2015	FCIC-25430
				18	80	06-2015	FCIC-25430
				19	81	06-2015	FCIC-25430
				20	82	06-2015	FCIC-25430
				21	83	06-2015	FCIC-25430
				22	84	06-2015	FCIC-25430
				23	85	06-2015	FCIC-25430
				24	86	06-2015	FCIC-25430
				25	87	06-2015	FCIC-25430
				26	88-89	06-2015	FCIC-25430
				27	90-91	06-2015	FCIC-25430
				28	92-93	06-2015	FCIC-25430
				29	94	06-2015	FCIC-25430
				30	95	06-2015	FCIC-25430
				31	96-97	06-2015	FCIC-25430
				32	98	06-2015	FCIC-25430

FILING INSTRUCTIONS

This handbook replaces the 2014 Small Grains Loss Adjustment Standards Handbook, FCIC-25430 (06-2013). This handbook is effective for the 2016 and succeeding crop years and is not retroactive to any 2014 or prior crop year determinations.

(RESERVED)

SMALL GRAINS LOSS ADJUSTMENT STANDARDS HANDBOOK
TABLE OF CONTENTS

PAGE NO.

SMALL GRAINS LOSS ADJUSTMENT STANDARDS HANDBOOK
TABLE OF CONTENTS

PAGE NO.

PART 1 GENERAL INFORMATION AND RESPONSIBILITIES

1 General Information

A. Purpose and Objective

The RMA issued loss adjustment standards for this crop are the official standard requirements for adjusting losses in a uniform and timely manner. The RMA issued standards for this crop and crop year are in effect as of the signature date for this crop handbook located at www.rma.usda.gov/handbooks/25000/index.html.

This handbook remains in effect until superseded by reissuance of either the entire handbook or selected portions (through amendments, bulletins, or FADs). If amendments are issued for a handbook, the original handbook as amended shall constitute the handbook. A bulletin or FAD can supersede either the original handbook or subsequent amendments.

B. Related Handbooks

The following table identifies handbooks that shall be used in conjunction with this handbook.

Handbook	Relation/Purpose
CIH	Provides overall general underwriting (not crop specific) process.
DSSH	Provides the form standards and procedures for use in the sales and service of crop insurance contracts.
GSH	Provides general crop insurance information.
LAM	Provides overall general loss adjustment (not crop-specific) process.

(1) Terms, abbreviations, and definitions general (not crop specific) to loss adjustment are identified in the LAM.

(2) Terms, abbreviations, and definitions specific to Small Grains loss adjustment and this handbook are in exhibits 1 and 2, herein.

C. CAT Coverage

Refer to the CIH, GSH and LAM for provisions and procedures not applicable to CAT coverage.

2 AIP Responsibilities

A. Utilization of Standards

All AIPs shall utilize these standards for both loss adjustment and loss training for the applicable crop year. These standards, which include crop appraisal methods, claims completion instructions, and form standards, supplement the general (not crop-specific) loss adjustment standards identified in the LAM.

B. Form Distribution

The following is the minimum distribution of forms completed by the adjuster and signed by the insured (or the insured's authorized representative) for the loss adjustment inspection.

(1) One legible copy to the insured; and
(2) The original and all remaining copies as instructed by the AIP.

C. Record Retention

It is the AIPs responsibility to maintain records (documents) as stated in the SRA and described in the LAM.

D. Form Standards

(1) The entry items in exhibits 3 - 6 are the minimum requirements for the Appraisal Worksheets and the Claim Form (hereafter referred to as "Production Worksheet"). All entry items are "Substantive" (they are required).

(2) The Privacy Act and Non-Discrimination statements are required statements that must be printed on the form or provided to the insured as a separate document. These statements are not shown on the example form(s) in exhibits 3 - 6. The current Non-Discrimination Statement and Privacy Act Statement can be found on the RMA website at: http://www.rma.usda.gov/regs/required.html or successor website.

(3) The certification statement required by the current DSSH must be included on the Production Worksheet directly above the insured's signature block immediately followed by the statement below:

"I understand the certified information on this Production Worksheet will be used to determine my loss, if any, to the above unit. The insurance provider may audit and approve this information and supporting documentation. The Federal Crop Insurance Corporation, an agency of the United States, subsidizes and reinsures this crop insurance."

(4) Refer to the DSSH for other crop insurance form requirements (such as point size of font, and so forth).

3-10 (Reserved)

PART 2 POLICY INFORMATION

The AIP determines the insured has complied with all policy provisions of the insurance contract. The Small Grains CP, which are to be considered in this determination include (but are not limited to):

11 Insurability

The following may not be a complete list of insurability requirements. Refer to the BP, the Small Grains CP, and the SP for a complete list.

(1) The crop insured will be each Small Grain the insured elects to insure in the county in which the insured has a share, for which premium rates are provided by the actuarial documents; and

(a) That is planted for harvest as grain (a grain mixture in which barley or oats is the predominate grain may also be insured if allowed by the Barley or Oat SP, or if a written agreement allows insurance for such mixture. The crop insured will be the grain which predominates in the mixture. The production from such mixture will be considered as the predominate grain on a weight basis); and

(b) Buckwheat will be insured only if it is produced under a contract with a business enterprise equipped with facilities appropriate to handle and store buckwheat production. For buckwheat, that is grown under, and in accordance with, the requirements of a processor contract executed on or before the acreage reporting date (the insured must provide a copy of all processor contracts to the AIP on or before the acreage reporting date) and is not excluded from the processor contract at any time during the crop year (Refer to the LAM and the SP for information on determining the insurable acreage and production guarantee when a processor contract is in force.); and

(c) That is not, unless insurance is allowed by written agreement:

(i) Interplanted with another crop, except as allowed in (1) (a), above;

(ii) Planted into an established grass or legume; or

(iii) Planted as a nurse crop, unless planted as a nurse crop for new forage seeding but only if seeded at a normal rate and intended for harvest as grain.

The insured's request for a written agreement to insure such crop must be in writing, and submitted to the AIP not later than 15 days after the acreage reporting date.

Refer to the SP for additional criteria in establishing insurability.

(3) Any production harvested from plants growing in the insured crop may be counted as production of the insured crop on a weight basis.

(4) Any acreage of the insured crop damaged before the final planting date, to the extent that the growers in the area (surrounding area for oats, rye, and flax) would normally not further care for the crop, must be replanted unless the AIP agrees that replanting is not practical. Refer to the LAM for replanting provision issues. Refer to Part 3 of this handbook for replanting payment procedures.

(5) A late planting period is applicable to small grains, except to any winter barley or wheat acreage covered under the terms of the Wheat or Barley Winter Coverage Endorsement.

(6) Buckwheat insurable acreage will be:

(a) For acreage only based processor contracts and acreage and production based processor contracts which specify a maximum number of acres, the lesser of:

(i) The planted acres; or
(ii) The maximum number of acres specified in the contract.

(b) For production only based processor contracts, the lesser of:

(i) The number of acres determined by dividing the production stated in the processor contract by the approved yield; or

(ii) The planted acres.

12 Unit Division

Refer to the insurance contract for unit provisions. Unless limited by the CP or SP, a basic unit, as defined in the BP, may be divided into optional units if, for each optional unit, all the conditions stated in the applicable provisions are met.

For information on Enterprise and Whole-Farm units, refer to the LAM.

13 Small Grains Quality Adjustment

A. General Information

(1) Refer to the LAM for information on speculative type contract prices in quality adjustment. THE QUALITY ADJUSTMENT FACTOR CANNOT BE GREATER THAN 1.000 or less than zero (.000).

(2) Refer to the LAM for instructions on who can obtain samples for grading, and who can make determinations of deficiencies, conditions and substances that would cause the crop to qualify for quality adjustment.

(3) Document quality adjustment information as described in the instructions for the Narrative section of the production worksheet (exhibit 6), or on a Special Report.

(4) For additional quality adjustment definitions, instructions, qualifications, sampling requirements, graders, and testing requirements, refer to the LAM and the Official United States Standards for Grain. Refer to the LAM and State Grading Standards for buckwheat standards.

(5) The adjuster must refer to the SP to determine if production is eligible for quality adjustment as identified in the Small Grains CP.

(6) Quality adjustment discount factors for U.S. grades specified in the SP will also apply to hull-less barley and hull-less oats at the same levels applicable to barley/oats.

(7) Small Grains production is also eligible for quality adjustment if substances or conditions are present that are identified by the Food and Drug Administration or other public health organizations of the United States as being injurious to human or animal health.

(8) When due to insurable cause(s), use of quality adjustment for small grains is handled by determining the appropriate discount factors from the SP, summing them together, if applicable, and subtracting from 1.000 to get the applicable Quality Adjustment Factor (percent of production to count). Refer to the SP for chart discount factors, instructions for calculating non-chart discount factors, and other discounts allowed. Also, refer to the LAM for examples and guidance in determining reduction-in-values (RIV's) needed to calculate non-chart discount factors. Refer to the SP for quality adjustment determination for buckwheat.

(9) If a local market cannot be found for the small grains, refer to the LAM.

(10) For small grains for which RIV's apply, and which can be conditioned/reconditioned, refer to the Quality Statements in the SP and the LAM for instructions.

(11) Refer to the LAM for special instructions regarding mycotoxin infected grain.

(12) Moisture adjustment is applied prior to applying any qualifying adjustment for quality such as test weight, kernel damage, etc. Moisture adjustment charts are provided in exhibits 22 – 25.

***

(13) For specialty use barley, quality adjustment will be provided as specified in the CP and SP. Specialty trait barley will be quality adjusted as All Others barley. The discount factor (DF) charts in the SP, or the reduction in value (RIV) and local market price (LMP) for All Others barley, as applicable, will be used for quality adjustment purposes, without regard to any contract price for the specialty type insured. No additional quality adjustment will be made for any specialty type.

B. Federal or State Ordered Destruction

Under section 15 (j) of the Basic Provisions, if due to insured causes, a Federal or State agency has ordered the appraised insured crop or production to be destroyed, on the production worksheet enter the factor ".000" in column 35 for appraised production or column 65 for harvested production, as applicable. Instruct the insured to complete and submit a Certification Form stating the date the crop or production WAS DESTROYED and the method of destruction (refer to item 40 and the Narrative in the production worksheet instructions). Also, refer to the LAM for additional information. Otherwise, MAKE NO ENTRY.

C. Malting Barley Price and Quality Endorsement

Refer to the Malting Barley (Pilot) Endorsement Insurance Standards Handbook for instructions for malting barley.

***

D. Wheat or Barley – Winter Coverage Endorsement

(1) The Winter Coverage Endorsement is available only in counties for which the SP designate both fall and spring final planting dates and for which the actuarial table provides a premium rate for this coverage.

(2) Whenever any winter wheat or barley is damaged during the insurance period and at least 20 acres or 20 percent of the insured planted acreage in the unit, whichever is less, does not have an adequate stand to produce at least 90 percent of the production guarantee, the insured may take one of the following options:

(a) Destroy the remaining crop on such acreage, and accept an appraisal for the damaged acreage that will count against the unit guarantee, in accordance with the Small Grains CP. (This acreage may be used for any purpose; including planting and separately insuring another crop if insurance is available. If the insured elects to plant such acreage to a spring type of the same crop, he/she must elect whether to insure the crop at the time the winter crop is released, and pay additional premium for the insurance. This planted acreage will be considered as a separate unit from the original winter wheat or barley unit);

If the acreage is destroyed and planted to a spring type of the same crop, the insured must; (1) plant the spring type in such a manner that it results in a clear and discernable break in the planting pattern between it and any remaining acreage of the winter type, and (2) store or market the spring production in a manner that the AIP can verify the amount of such production separate from any winter type production.

(b) Continue to care for the damaged crop and maintain the winter wheat or barley production guarantee for the acreage; or

(c) Replant the damaged acreage, if practical, to an appropriate variety of the insured crop and receive a replanting payment in accordance with the replant payment provisions contained in the Small Grains CP (such acreage will be considered to be a part of the original winter wheat or barley unit), and the production guarantee for winter wheat or barley will remain in effect.

14-20 (Reserved)

PART 3 REPLANTING PAYMENT PROCEDURES

21 Replanting Payment Procedures

(1) Replanting payments made on acreage replanted using a practice that was uninsurable as an original planting will require the deduction of the replanting payment for such acreage from the original unit liability. If the unit dollar loss (final claim) is less than the original unit liability minus such replanting payment, the actual indemnity dollar amount will not be affected by the replanting payment. The premium will not be reduced.

(2) No replanting payment will be made on acreage on which a prior replanting payment has been made during the current crop year.

(3) SPECIALTY TYPE BARLEY: When it is no LONGER PRACTICAL to replant to the same specialty type barley (e.g., the processor will not accept any production from acreage planted after a specific date), however it is practical to replant to a different barley type and the insured elected to replant to a different specialty type (provided all insurability requirements are met), or an "All Others" type, a revised acreage report (if previously filed) must be processed PRIOR to processing a replant claim. In some cases, the Small Grains CP allow insurance to continue based on a winter type when a spring type is replanted. In this event, a revised acreage report may not be required.

(a) Regular rules for acreage report revision apply (refer to the LAM).

(b) The applicable price election of the replanted barley type will be used to determine any replanting payment and to establish the premium and liability for the replanted acreage.

(c) Acreage that is replanted to a different type may have an increase or decrease in liability from that originally reported.

22 Qualifications for Replanting Payment

(1) To qualify for a replanting payment (wheat, barley, oats, flax, and buckwheat only), the:

(a) Insured crop must be damaged by an insurable cause;

(b) AIP must determine that it is practical to replant (refer to the LAM);

(c) Acres being replanted must have been initially planted on or after the "Earliest Planting" date established by the SP;

(d) bushel per acre appraisal (or appraisal plus any appraisals for uninsured causes of loss) must be less than 90 percent of the per acre production guarantee for the acreage the insured intends to replant (Refer to Part 4, "Small Grains Appraisals");

(e) amount of acreage replanted must be AT LEAST the lesser of 20 acres or 20 percent of the insured **planted** acreage for the unit (as determined on the final planting date or within the late planting period if a late planting period is applicable);

Any acreage planted after the end of the late planting period will not be included when determining if the 20 acres or 20 percent qualification is met. Refer to the LAM.

(f) acreage must have been initially planted to spring type of the insured crop in those counties with only a spring final planting date;

(g) damage must occur after the fall final planting date in those counties where both a fall and spring final planting date are designated. If the SP provide more than one fall final planting date, the fall final planting date applicable to policies with the Wheat or Barley Winter Coverage Endorsement will be used for this purpose, regardless of whether or not the endorsement is actually in effect;

(h) replanted crop must be seeded at a rate sufficient to achieve a total (undamaged and new seeding) plant population that will produce at least the yield used to determine the production guarantee;

(i) insured must comply with any winter coverage endorsement if it has been elected;

(j) AIP has given consent to replant.

(2) Acreage initially planted to winter type of the insured crop (including rye) in any county for which the SP contain only a fall final planting date (including final planting dates in December, January, and February) **WILL NOT** be allowed a replanting payment.

In the Narrative of the production worksheet or on a Special Report, show the bushel per acre appraisal for each field or subfield and the calculations to document that qualifications for a replanting payment have been met.

23 Maximum Replanting Payment

The maximum amount of the replanting payment per acre will be the LESSER OF:

(1) 20 percent of the production guarantee times the price election for oats, flax, or buckwheat or the projected price for wheat or barley, times the insured share; or

(2) the maximum bushels allowed in the policy (4 bushels for wheat, 2 bushels for flax or buckwheat, 5 bushels for barley or oats) multiplied by the price election for oats, flax, or buckwheat or the projected price for wheat or barley, times the insured share.

Compute the number of bushels per acre allowed for a replanting payment as follows. Show all calculations in the Narrative of the production worksheet or on a Special Report.

Example 1: Owner/operator (100 percent share)
30 acres wheat replanted
20% of prod. guar. (25.0 bu. x 20%) = 5.0 bu. x 1.000 (share) = 5.0 bu.
4.0 bu. (maximum bu. allowed in policy) x 1.000 (share) = 4.0 bu.
The lesser of 5.0 and 4.0 is 4.0
Bushels per acre allowed = 4.0 bu.
Enter the number of bushels per acre allowed (4.0 bu.) in Section I, column 31, "Appraised Potential" of the production worksheet.

Example 2: Landlord/tenant 50/50 share
30 acres wheat replanted
20% of prod. guar. (25.0 bu. x 20%) = 5.0 bu. x .500 (share) = 2.5 bu.
4.0 bu. (maximum bu. allowed in policy) x .500 (share) = 2.0 bu.
The lesser of 2.5 and 2.0 is 2.0
Bushels per acre allowed = 2.0 bu.

Enter the number of bushel allowed (2.0 bu.) if share has been applied, or the number of bushels allowed (4.0 bu.) if share has yet to be applied in Section I, column 31, "Appraised Potential" of the production worksheet. (Follow individual AIP guidelines). Indicate in the Narrative if bushels allowed for replanting have/have not been reduced for share on production worksheet according to individual AIP guidelines.

24 Replanting Payment Inspections

Replanting payment inspections are to be prepared as final inspections on the production worksheet only when qualifying for a replanting payment. Non-qualifying replanting-payment inspections **(unless the claim is withdrawn by the insured)** are to be handled as preliminary inspections. If qualified for a replanting payment, a Certification Form may be prepared on the initial farm visit. Refer to the LAM.

25-30 (Reserved)

PART 4 APPRAISALS

31 General Information

Potential production for all types of inspections will be appraised in accordance with procedures specified in this handbook and the LAM.

32 Selecting Representative Samples

A. Determine Minimum Samples

Determine the minimum number of required samples for a field or subfield by the field size, the average stage of growth, age (size); general capabilities of the plants, variability of potential production, and plant damage within the field or subfield.

B. Splitting Fields

(1) Split the field into subfields when:

(a) Variable damage causes the crop potential to appear to be significantly different within the same field; or

(b) The insured wishes to destroy a portion of a field.

(2) Each field or subfield must be appraised separately.

(3) Take not less than the minimum number (count) of representative samples required in exhibit 7 (Minimum Representative Sample Requirements) for each field or subfield.

33 Measuring Row Width for Sample Selection

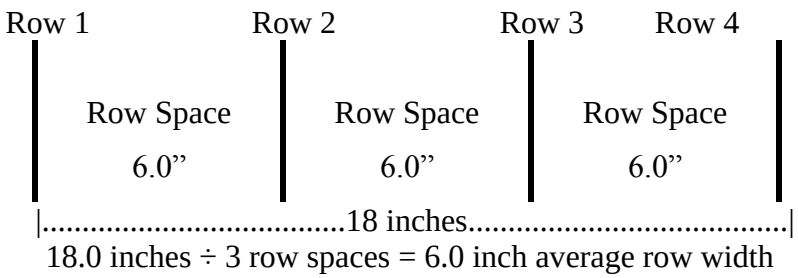
Use these instructions for all appraisal methods that require row width determinations.

(1) Use a measuring tape marked in inches or convert a tape marked in tenths, to inches, to measure row width (refer to the LAM for conversion table).

(2) Measure across three OR MORE row spaces, from the center of the first row to the center of the fourth row (or as many rows as needed), and divide the result by the number of row spaces measured across, to determine an average row width to the nearest one-half inch.

For seeding implements that produce inconsistent row widths (e.g., air seeded drills) the adjuster may need to measure the seeding implement row spacing.

Example:



18.0 inches ÷ 3 row spaces = 6.0 inch average row width

(3) Apply the average row width to exhibit 8 for all small grains, except buckwheat to determine the Square Foot Factor required for the sample row. For buckwheat, apply average row width to exhibit 9 to determine the Factor required for the sample. The length of row measured will be 10 feet.

(4) When two or more rows are used for a pattern, divide the length of a single row pattern by the number of rows in the pattern. The combined length of all rows must equal the single row length.

(5) Where rows are skipped for tractor and planter tires, refer to the LAM.

(6) For broadcast acreage, use a 3-foot square grid (9 square feet).

34 Appraisals Methods

A. General Information

Refer to exhibits 10 -15 for explanation of growth stages for the Small Grains crops and buckwheat.

These instructions provide information on the following appraisal methods:

WHEAT, BARLEY, OATS, AND RYE	
Appraisal Method...	**Use...**
Before Heading - Tillering Incomplete	for spring planted acreage with no emerged seed, and from Seedling to Tillered stage.
Before Heading - Tillering Complete	from Tillered stage through Boot stage.
After Heading	from Heading stage through Maturity stage.

FLAX	
Appraisal Method...	**Use...**
Before boll development	for spring planted acreage with no emerged seed, and from Seedling through Blossom stage.
After boll development	from Green Boll stage through Maturity stage.

BUCKWHEAT	
Appraisal Method...	**Use...**
Stand Reduction	for spring planted acreage with no emerged seed, and to appraise plants from Emergence to Harvest Ready stage.
Plant Damage	to appraise plants from Flowering Stage to Harvest Ready stage.
Seed Count	to appraise plants in the Harvest Ready stage.

B. Before Heading Method

Use Part I, Before Heading, of the appraisal worksheet to record appraisal determinations for this appraisal method for wheat, barley, oats, and rye.

(1) Tillering Incomplete (Seedling to Tillered Stage). Refer to exhibits 10 and 12 - 14**.**

If the sample contains scattered late seedlings and the majority of plants are fully tillered or in the jointing stage, appraise under the tillering complete method.

For spring planted acreage, if the reduction in stand is solely due to non-emerged seed due to insufficient soil moisture; do not complete appraisals prior to the time specified in the LAM. Refer to the paragraph in the LAM regarding deferred appraisals and non-emerged seed.

(a) This method is based on the number of **LIVE PLANTS** (out of dormancy for winter wheat, winter barley, winter oats or rye) in a 10 ft. sample row length.

(b) Using the tiller factors table (exhibit 16), convert single plant counts to tillers to count for the type of small grain being appraised.

(c) Convert tillers to potential bushels per acre using a 10 ft. row-length and the Square Foot Factor from exhibit 8 and the Tiller-to-Bushel Yield-Factor using exhibit 17.

B. Before Heading Method (continued)

(d) For damage due to hail: Small grain in the seedling to tillered stage very rarely suffers damage due to hail. What appears to be cutoff stems is simply leaf material that will regenerate. Delay inspection 7 to 10 days after damage. Plants should then be showing signs of new shoots or tillers at the base of the plant.

(e) For damage other than hail:

(i) WHENEVER POSSIBLE, delay appraisals when damage occurs before tillering is complete until the number of potential tillers can be identified. Use judgment as to the number of tillers that will produce a normal head.

(ii) If an immediate release is requested, use the "TILLERING-INCOMPLETE APPRAISAL METHOD."

(2) Before Heading - Tillering Complete for Barley, Oats, Rye or Wheat (Tillered Through Boot Stage).

If less than 50% is headed, use Before Heading Appraisal Method, if 50% or more has reached the headed stage use the After Heading Appraisal Method.

(a) This method is based on the number of LIVE TILLERS with potential to produce a normal head in a 10 ft. row length.

(b) For the type of small grain being appraised, convert each tiller counted to potential bushels per acre (exhibit17).

(c) For damage due to hail, delay inspection 7 to 10 days after damage. DO NOT ATTEMPT to determine the potential of LIVE plants damaged by hail after tillering is complete. Defer the appraisal to the after-heading method. If deferral is not practical (such as the insured's need to graze the acreage), explain to the insured that ALL LIVE tillers with potential to produce a normal head of the insured crop (or insurable mixture) will be considered to have yield potential, and will be counted to determine the appraisal.

(d) For uneven stands, where most plants are fully tillered, determine the average number of tillers per sample.

(e) If the sample contains scattered late seedlings but the majority of the plants are fully tillered or in the jointing stage, count each seedling as one tiller.

C. After Heading Method

Use Part II, After Heading, of the appraisal worksheet to record appraisal determinations for this appraisal method for wheat, barley, oats, and rye.

(1) Use this method to appraise small grain from the heading stage through maturity. Base after-heading appraisals on:

(a) The number of harvestable heads in a 10 ft. sample row length. Harvestable heads are those that can be mechanically harvested. Do not include any empty or barren heads (e.g., heads which failed to fill or do not contain any harvestable kernels) in the number of harvestable heads. Terrain and the insured's farming practices must be considered when determining cutting height.

(b) The average number of kernels per head determined from **FIVE** representative heads in the sample. If there are less than 5 heads in the sample, the number of kernels in all heads in the sample will be counted.

(c) The average number of kernels from the representative heads converted to bushels per acre by dividing the average number of kernels per square foot (Part II, item 32 of the appraisal worksheet) by the number of kernels in one square foot that equal **ONE** bushel per acre (exhibit 18).

(2) Selection of representative heads.

(a) When the kernels are all filled, select FIVE sample heads from the AVERAGE HEAD LEVEL in the sample row. If there are less than 5 heads in the sample, the number of kernels in all heads in the sample will be counted. Do not select large heads and sucker heads to get an average. Do not include any barren heads when selecting the five representative heads (e.g. heads which failed to fill or do not contain any harvestable kernels).

(b) IF KERNELS ARE NOT YET FILLED, use average number of kernels per head (exhibit 19). Unless you have valid justification to apply the kernel-to-bushel yield factor for shriveled wheat or thin barley, assume that unfilled kernels will not be shriveled after they fill and mature.

(c) Appraising unharvested production after a crop has reached maturity may be done by arranging with the insured to harvest representative areas. Use production harvested to determine yield per acre.

C. After Heading Method (continued)

(3) Use the following method(s) to appraise windrowed (swathed) grain after heading for Barley, Oats, Rye or Wheat:

(a) Inspect the field or subfield for representative rows of standing grain (spots missed in the field, corners, etc.) and appraise the standing grain using the "After-Heading" method.

Where head damage is prevalent in the windrows (swath) and remaining standing rows are used for the appraisal, the damage to the sample rows must be comparable to the damage in the windrows before this method can be used.

(b) Select representative samples from the windrowed grain and appraise as follows:

(i) Head count. Select representative stubble rows and count the stubble straw for the 10 ft. row length. Where windrows contain excessive weeds (which are due to insurable causes, etc.), use judgment in determining the number of grain heads from the stubble-straw count. **EXAMPLE:** If 10 percent of the grain heads in the representative sample windrow are weeds (wild oats, etc.), use only 90 percent of the stubble-straw count for the head-count sample on the worksheet.

(ii) Kernel count. Select 10 representative heads from 35 to 40 feet of windrow and determine the average number of kernels per head for the kernel count.

D. Flax before Boll Development

Use Part I, Before Boll Development, of the appraisal worksheet to record appraisal determinations for flaxseed from Seedling Stage through Blossom Stage. If the reduction in stand is solely due to non-emerged seed caused by insufficient soil moisture, do not complete appraisals prior to the time specified in the LAM. Refer to the LAM regarding deferred appraisals and non-emerged seed.

(1) Count the number of **LIVE PLANTS** capable of producing flaxseed in a 10 ft. sample row length.

(2) Total the number of live plants from all samples.

(3) Divide the result of item (2) by the number of samples taken.

(4) Multiply the result of item (3) by the appropriate Square Foot Factor in exhibit 8.

(5) Multiply the result of item (4) by the yield factor on the appraisal worksheet to determine the bushel per acre appraisal.

E. Flax after Boll Development

Use Part II, After Boll Development, of the appraisal worksheet to record appraisal determinations for flaxseed from the Green Boll Stage through Maturity Stage.

(1) Count the number of plants in a 10 ft. sample row length and determine the average number of plants per sample.

(2) Select **FIVE** representative plants in the sample and determine the average number of bolls per plant.

(3) Select **TEN** representative bolls in the sample and determine the average number of kernels per boll.

(4) Determine the total average kernels by multiplying the result from item (1) by item (2) by item (3).

(5) Determine the average kernels per square foot by dividing the result in item (4) by the Square Foot Factor (exhibit 8). This result is divided by the yield factor stated on the appraisal worksheet to determine the bushel per acre appraisal.

F. Buckwheat Stand Reduction

(1) Stand reduction occurring up to and including the N-8 stage of growth (Refer to exhibit 15 for information on growth stage determinations). Dead, missing or non-emerged plants in addition to live remaining plants are used when determining stand reduction occurring in the earlier stages of growth losses. When damage from an insurable cause results in missing plants or non-emergence, if possible, determine the original plants per acre from an undamaged area of the field.

(a) Determine the original number of buckwheat plants and the remaining number of live plants per acre by using the following steps:

(i) If the buckwheat is drilled, use a 10 ft. row length. If the buckwheat is broadcast, use a 3-foot by 3-foot square grid.

(ii) Determine the original number of plants in the sample (living and dead, missing, or non-emerged).

(iii) Determine the number of destroyed plants (dead, missing or non-emerged) in the sample.

(iv) Divide the number of destroyed plants by the number of original plants to arrive at percentage of plants destroyed.

F. Buckwheat Stand Reduction (continued)

(b) Use exhibit 20 to convert percentage of destroyed plants to the percent of loss due to vegetative stand reduction.

(2) Determine the stand reduction occurring at the N-9 stage of growth to the harvest ready stage. The number of dead, missing or non-emerged plants is used when determining stand reduction for the later stages of growth losses.

(a) Select 100 consecutive plants including those missing or destroyed. Count the number of plants totally destroyed.

(b) Divide the result in (a) by 100 to determine the damage due to late-stage plants destroyed (rounded to three decimal places).

(c) Subtract the result in (b) from 1.000 to determine the potential remaining.

G. Buckwheat Plant Damage

Plant damage on buckwheat shall include any damage resulting in cut-off and/or broken over plants beginning with the N-4 stage (Refer to exhibit 15 for information on growth stage determinations). Use the following procedure to determine the percentage of plant damage (plant damage is applied to the percent of the crop remaining after any determinations for stand reduction):

(1) Determine the original number of nodes at date of damage for 20 consecutive plants. (The number of original nodes per plant for the stage times 20 (e.g., N-8 stage or 8 nodes times 20 = 160 original nodes).

(2) Determine the number of nodes cut-off or broken over, which will not be harvestable. For cut-off plants, count only those nodes that are completely severed from the main stem of the Buckwheat plant. Classify those plants not completely severed as broken over nodes. Care should be taken when considering broken over nodes in determining loss. Only plants with nodes broken over, at a node height above the cutter or swather cutting height should be included for plant damage determination. In situations where excessive numbers of plants are broken over the adjuster should defer the adjustment until a more accurate determination of harvestable plants can be determined.

(3) Total the number of nodes cut-off or broken over. Divide this total by the number of nodes at the date of damage to arrive at the percent of plant damage.

(4) Refer to exhibit 21 to determine the percent of loss to plant damage.

(5) Multiply the percent of damage determined above by the potential remaining to determine the net percentage of loss due to plant damage.

H. Buckwheat Seed Count

(1) Seed count appraisals are done when more than 70% of the seeds have turned black or brown. For seeds not turned black or brown, the adjuster may need to defer the adjustment for a period of time in order to determine the extent the immature seeds will finish filling in order to accurately determine the loss. This will depend upon the proximity of the appraisal to the time the crop is scheduled to be windrowed or frost will occur.

(2) Performing the seed count appraisal:

(a) In each representative sample, measure 10 ft. of row for drilled buckwheat, or a 3-foot by 3-foot square area for broadcast buckwheat.

(b) Count all of the harvestable plants.

(c) From these plants, select 5 plants which best represent the sample.
EXAMPLE: Count the number of brown or black seeds from the 5 plants, which when felt with the fingers do not fold or collapse. For seeds not yet black or brown count only those seeds which should produce harvestable seed. These seeds should be dark green with signs of mottling (brownish streaks). Seeds which are white and firm with milk should only be counted if 2 or more weeks remain prior to harvest or to expected normal frost.

(d) Determine the average seeds per plant by dividing the total seeds counted by 5.

(e) Determine the average plants per foot by dividing the plants in the sample by 10 for a 10 ft. row length, or divide by 9 for broadcast seeded buckwheat.

(f) Refer to exhibit 9 to determine the appropriate Factor to be used for adjusting the sample size to acreage.

(g) The SEED SIZE FACTOR adjusts the above determinations to bushels. Use .0167 as the factor for large seeded varieties, or .0144 for small seeded varieties (Refer to exhibit 31 for Varieties of Buckwheat).

35 Deviations and Modifications

(1) Deviations in appraisal methods require FCIC written authorization (as described in the LAM) prior to implementation.

(2) Modifications in appraisal methods require AIP authorization (as described in the LAM).

The following appraisal modifications are to be used **ONLY** when conditions warrant. Document on a Special Report or in the Narrative of the production worksheet the authorization to use appraisal modification(s).

(1) Streak Mosaic (used **ONLY** before heading).

(a) Use a minimum of 50 plants to determine the percent of live plants with disease.

(b) Use the factor table below to reduce the before-heading bushel-per-acre appraisal shown on the Appraisal Form.

MOSAIC YIELD REDUCTION CHART (BEFORE HEADING)	
Percent Live Plants with Disease	**Factor to be Applied**
0 – 11	**None**
12 – 37	**.90**
38 – 62	**.75**
63 – 86	**.50**
87 – 100	**.20**

(2) Freeze (used **ONLY** at late boot and early heading stages of growth).

Use the after-heading method and the following procedure to determine appraisal.

(a) Delay appraisal 7 to 10 days after the freeze.

(b) A growing point that has been damaged loses its turgidity (full firm texture) and greenish color within a few days after a freeze.

(c) The flowering stage is the most freeze sensitive stage in wheat. Flowering proceeds from florets near the center of wheat spikes to florets at the top and bottom of the spikes over a 2-to 4-day period (refer to exhibit 29). The center or one or both ends of the spikes might be void of grain because those florets were at a sensitive stage when they were frozen. Grain might develop in other parts of the spikes, because flowering had not started or was already completed in those florets when the freeze occurred.

(d) Examine the florets of a representative number of heads from the sample row for freeze damage to the pistils or immature kernels.

(i) Damaged: When all of the florets have brown, discolored pistils or immature kernels, the kernels will not mature: Do not count florets as potential kernels.

(ii) Partially damaged: For heads with partial freeze damage, count as potential kernels only the florets that have pistils or immature kernels with pale green or white coloration.

(iii) Undamaged: When all of the pistils or immature kernels in the florets have a pale green or white coloration, freeze damage has not occurred: Count each floret as a potential kernel.

Freeze damage late in the heading stages may result in shrunken kernels and/or loss of test weight. Losses due to freeze damage must be deferred until an accurate appraisal can be determined. Whenever possible, determine damage from a graded sample.

36 General Information for Appraisal Worksheet Entries and Completion Procedures

(1) Include the AIP's name in the appraisal worksheet title if not preprinted on the worksheet or when a worksheet entry is not provided.

(2) Include the claim number on the appraisal worksheet (when required by the AIP) when a worksheet entry is not provided.

(3) Separate appraisal worksheets must be completed for each unit appraised, and for each field or subfield including fields or subfields with a different APH yield or farming practice (applicable to replant, preliminary, and final claims). Refer to Part 4, paragraph 34 for sampling requirements.

(4) When a remarks section is not included on the form, document pertinent information about the appraisal, including any appropriate calculations, on a Special Report and attach to the worksheet.

(5) Standard appraisal worksheet items are numbered consecutively in exhibits 3 - 5. Example appraisal worksheets are also provided to illustrate how to complete item entries.

(6) For all zero appraisals, refer to the LAM.

37-50 (Reserved)

PART 5 PRODUCTION WORKSHEET

51 General Information for Production Worksheet Entries and Completion Procedures

(1) The Production Worksheet is a progressive form containing all notices of damage for all preliminary, replant, and final inspections on a unit.

(2) If a Production Worksheet has been prepared on a prior inspection, verify each entry and enter additional information as needed. If a change or correction is necessary, strike out all entries on the line and re-enter correct entries on a new line. The adjuster and insured should initial any line deletions.

(3) Refer to the LAM for instructions regarding the following:

(a) Acreage report errors.

(b) Delayed notices and delayed claims.

(c) Corrected claims or fire losses (double coverage) and cases involving uninsured causes of loss, unusual situations, controversial claims, concealment, or misrepresentation.

(d) Claims involving a Certification Form (when all the acreage on the unit has been appraised to be put to another use, when acreage is being appraised for a replanting payment and all acreage on the unit has been initially planted, or other reasons described in the LAM).

(e) "No Indemnity Due" claims (which must be verified by an APPRAISAL or NOTIFICATION from the insured that the production exceeded the guarantee).

(f) Late planting.

(4) Refer to the Prevented Planting Handbook for information on prevented planting.

(5) The adjuster is responsible for determining if any of the insured's requirements under the notice and claim provisions of the policy have not been met. If any have not, the adjuster should contact the AIP.

(6) Instructions labeled "**PRELIMINARY**" apply to preliminary inspections only. Instructions labeled "**REPLANT**" apply to replant inspections only. Instructions labeled "**FINAL**" apply to final inspections only. Instructions not labeled apply to ALL inspections.

(7) The AIP may complete a separate Production Worksheet for each type planted in the unit.

(8) If the AIP determines the claim is to be DENIED, refer to the LAM for PW completion instructions.

52-60 (Reserved)

Acronyms and Abbreviations

The following table provides the acronyms and abbreviations used in this handbook.

Approved Acronym/Abbreviation	Term
AIP	Approved Insurance Provider
APH	Actual Production History
BP	Basic Provisions
CAT	Catastrophic Risk Protection
CIH	Crop Insurance Handbook
CP	Crop Provisions
DF	Discount Factor
DSSH	Document and Supplemental Standards Handbook
GSH	General Standards Handbook
FCIC	Federal Crop Insurance Corporation
FGIS	Federal Grain Inspection Service
LAM	Loss Adjustment Manual
PW	Production Worksheet
RIV	Reduction in Value
RMA	Risk Management Agency
SP	Special Provisions

Definitions

Harvest - Combining or threshing the insured crop for grain or cutting for hay or silage on any acreage. A crop which is swathed prior to combining is not considered harvested.

Headed - When the plant's head has emerged from the leaf sheath and is visible to the naked eye.

Heading - At least 50 percent of the crop has headed.

Khorasan - The common name for a variety of wheat (triticum turanicum) that is marketed under trademarks such as Kamut. Khorasan is considered to be spring wheat for the purposes of the crop provisions.

Local Market Price - The cash grain price per bushel for the applicable quality level indicated below and offered by buyers in the area in which the insured normally markets the insured crop. The local market price will reflect the maximum limits of quality deficiencies allowable for the applicable quality level indicated below. Factors not associated with the specified quality levels, including but not limited to protein, oil or moisture content, or milling quality will not be considered.

(a) U.S. No. 2 for Wheat (subclass hard amber durum for durum wheat and subclass northern spring for hard red spring wheat), except Khorasan; barley (including hull-less barley); oats (including hull-less oats); rye; and flax.

(b) The quality factor levels required for durum wheat to grade U.S. No. 2 for Khorasan.

(c) No. 2 grade buckwheat determined in accordance with the applicable state grading standards or for states without state grading standards, refer to the SP.

Nurse crop (companion crop) - A crop planted into the same acreage as another crop, that is intended to be harvested separately, and which is planted to improve growing conditions for the crop with which it is grown.

Small Grains - Wheat including only common wheat, club wheat, durum wheat and Khorasan; barley, including hull-less barley and excluding black barley; oats, and hull-less oats; rye; flax; and buckwheat.

Swathed - Severance of the stem and grain head from the ground without removal of the seed from the head and placing into a windrow.

Form Standards – Appraisal Worksheet for Wheat, Barley, Oats, and Rye

Verify and/or make the following entries for each appraisal worksheet element/item number. A completed appraisal worksheet example is at the end of this exhibit. For general form standards and other general information, see subparagraph 2D and paragraph 36.

	Element/Item Number	Standard
	Company	Name of AIP if not preprinted on the worksheet (Company Name).
	Claim Number	Claim number as assigned by the AIP.
1.	Insured's Name	Name of the insured that identifies EXACTLY the person (legal entity) to whom the policy is issued.
2.	Policy Number	Insured's assigned policy number.
3.	Unit Number	Unit number from the Summary of Coverage after it is verified to be correct.
4.	Crop	Barley Feed, Barley Malt, Oats, Rye, or Wheat.
5.	Crop Year	Four-digit crop year, as defined in the policy, for which the claim is filed.
	Part I – Before Heading **For samples not yet tillered, partially tillered and where tillering is complete. AFTER A SMALL GRAIN HAS REACHED THE HEADING STAGE, USE PART II.**	
6.	Field ID	Field or subfield identification symbol.
7.	Drill Space	Row width to nearest one-half inch. If broadcast, enter "B." Refer to Part 4, Paragraph 33 for row width determination information.
8.	Tillering Incomplete Column No. Plants	Number of live plants capable of producing grain in each sample where tillering is **incomplete**. If tillering is complete on the sample, MAKE NO ENTRY.
9.	Total	Total number of plants in all samples from item 8.
10.	Tiller Factor	Using the Tiller Factor (exhibit 16**)** convert single plant counts to tillers to count for the type of small grain being appraised. Document in the remarks section or on a Special Report the type of wheat being appraised.
11.	Tillers to Count	Multiply total plants (item 9) by tiller factor (item 10) and enter to the nearest WHOLE number.
12.	Tillering Completed Column No. Tillers	Number of live tillers capable of producing grain in each sample where tillering is **complete**. If tillering is incomplete on the sample, MAKE NO ENTRY. Scattered late seedlings in the sample row are to be counted as ONE tiller per seedling.
13.	Total	Total number of tillers in all samples from item 12.
14.	Total No. Tillers	Sum of items 11 and 13.
15.	Total No. of Plots	Total number of sample plots in item 8 and 12.
16.	Avg. No. Tillers	Results of dividing item 14 by item 15, rounded to the nearest tenth.

Form Standards – Appraisal Worksheet for Wheat, Barley, Oats, and Rye (Continued)

17. Sq. Ft. Factor	Square foot factor from exhibit 8 in relation to row spacing.
18. Avg. Till. Per Sq. Ft.	Result of dividing item 16 by item 17, rounded to the nearest tenth.
19. Yield Factor	Tiller to Bushel Yield Factor exhibit 17.
20. Bu. Per Acre Appraisal	Result of multiplying item 18 by item 19, rounded to the nearest tenth.
Part II – After Heading	
21. Field ID	Field or subfield identification symbol.
22. Drill Space	Row width to nearest one-half inch. If broadcast, enter "B." Refer to Part 4, paragraph 33 for row width determination information.
23. No. of Kernels (Five Heads) From Each Sample Plot	Total number of kernels in FIVE representative heads from each sample plot. Do not include any empty or barren heads when selecting the five harvestable heads. If there are less than 5 heads in the sample, count the number of kernels in all heads in the sample. If there were no remaining or harvestable heads in the representative sample area, or the heads have no kernels, enter "0."
24. No. Heads Sampled	Number of representative heads sampled ("5" is preprinted on the appraisal worksheet). If there are less than 5 heads sampled, line through "5" and enter the number of heads actually sampled. If there are no remaining or harvestable heads with kernels in the sample, leave as "5."
25. Avg. No. Kernels Per Head	Result of dividing item 23 by item 24, rounded to the nearest tenth.
26. Total Number Heads From Each Sample Plot	Number of heads counted in each sample plot. Do not include any empty or barren heads when counting the number of harvestable heads.
27. Total Kernels Per Sample	Result of multiplying item 25 times item 26, rounded to the nearest tenth.
28. Total Kernels All Samples	Total number of kernels in all samples from item 27.
29. No. Samples	Total number of sample plots.
30. Avg. Kernels Per Sample	Result of dividing item 28 by item 29, rounded to nearest tenth.
31. Sq. Ft. Factor	Square Foot Factor from exhibit 8**.**
32. Avg. Kernels Per Sq. Ft.	Result of dividing item 30 by item 31, rounded to the nearest tenth.
33. Yield Factor	Enter the Kernels to Bushel Yield Factor from exhibit 18 for "Not shriveled" (even if the kernels are not yet filled), unless you have sufficient justification to apply the "shriveled" small grain factor.

34.	Bu. Per Acre Appraisal	Result of dividing item 32 by item 33, rounded to the nearest tenth.
	The following required entries are not illustrated on the Appraisal Worksheet example below.	
35.	Insured's Signature and Date	Insured's (or insured's authorized representative's) signature and date. BEFORE obtaining insured's signature, REVIEW ALL ENTRIES on the Appraisal Worksheet WITH THE INSURED, (or insured's authorized representative) particularly explaining codes, etc., which may not be readily understood.
36.	Code No., Adjuster's Signature, and Date	Signature of adjuster, code number, and date signed **after** the insured (or insured's authorized representative) has signed. If the appraisal is performed prior to signature date, document the date of appraisal in the Remarks/Narrative section of the Appraisal Worksheet (if available); otherwise, document the appraisal date in the Narrative of the Production Worksheet.
	Page Number	Page numbers - (Example: Page 1 of 1, Page 1 of 2, Page 2 of 2, etc.).

Form Standards – Appraisal Worksheet for Wheat, Barley, Oats, and Rye (Continued)

COMPANY Any Company Claim No.: XXXXXXXX	1. INSURED'S NAME I.M. Insured	2. POLICY NUMBER XXXXXXX	3. UNIT NUMBER 0001-0001 BU	4. CROP Wheat	5. CROP YEAR YYYY

PART I BEFORE HEADING

6. Field ID	7. Drill Space	8. Tillering Incomplete Column **No. Plants** - Block Equals 1 Sample	10. Tiller Factor	11. Tillers To Count	12. Tillering Completed Column **No. Tillers** - Each block = 1 Sample Plot	14. Total No. Tillers	15. Total No. of Plots	16. Avg. No. Tillers	17. Sq. Ft. Factor	18. Avg. Till Per Sq. Ft.	19. Yield Factor	20. Bu. Per Acre Appraisal
A	12.0	19 6 10										
		9. TOTAL 35	X	5 = 175	+ 13. TOTAL	= 175	÷ 3 =	58.3 ÷	10 =	5.8 X	.73 =	4.2
C	12.0				291 235 160 313 236							
		9. TOTAL	X	=	+ 13. TOTAL	= 1235	÷ 5 =	247.0 ÷	10 =	24.7 X	.73 =	18.0
		9. TOTAL	X	=	+ 13. TOTAL	=	÷ =	÷	=	X	=	

PART II AFTER HEADING

21. Field ID	22. Drill Space									28. Total Kernels All Samples	29. No. Samples	30. Avg. Kernels Per Sample	31. Sq. Ft. Factor	32. Avg. Kernels Per Sq. Ft.	33. Yield Factor	34. Bu. Per Acre Appraisal
		23. No. Kernels (Five Heads) From Each Sample Plot	÷	÷	÷	÷	÷	÷	÷							
		24. No. Heads Sampled	5	5	5	5	5	5	5							
		25. Avg. No. Kernels Per Head	=	=	=	=	=	=	=							
		26. Total Number Heads From Each Sample Plot	X	X	X	X	X	X	X							
		27. Total Kernels Per Sample	=	=	=	=	=	=	=							
			+	+	+	+	+	+	=		÷	=	÷	=	÷	=
		23. No. Kernels (Five Heads) From Each Sample Plot	÷	÷	÷	÷	÷	÷	÷							
		24. No. Heads Sampled	5	5	5	5	5	5	5							
		25. Avg. No. Kernels Per Head	=	=	=	=	=	=	=							
		26. Total Number Heads From Each Sample Plot	X	X	X	X	X	X	X							
		27. Total Kernels Per Sample	=	=	=	=	=	=	=							
			+	+	+	+	+	+	=		÷	=	÷	=	÷	=

This form example does not illustrate all required entry items (e.g., signatures, dates, etc.).

Form Standards – Appraisal Worksheet for Wheat, Barley, Oats, and Rye (Continued)

COMPANY Any Company Claim No.: XXXXXXXX	1. INSURED'S NAME I.M. INSURED	2. POLICY NUMBER XXXXXXX	3. UNIT NUMBER 0001-0001 BU	4. CROP Wheat	5. CROP YEAR YYYY

PART I BEFORE HEADING

6. Field ID	7. Drill Space	8. Tillering Incomplete Column **No. Plants** - Block Equals 1 Sample	10. Tiller Factor	11. Tillers To Count	12. Tillering Completed Column **No. Tillers** - Each block = 1 Sample Plot	14. Total No. Tillers	15. Total No. of Plots	16. Avg. No. Tillers	17. Sq. Ft. Factor	18. Avg. Till Per Sq. Ft.	19. Yield Factor	20. Bu. Per Acre Appraisal
		9. TOTAL_____ X	=	+	13. TOTAL_____	=	÷	=	÷	=	X	=
		9. TOTAL_____ X	=	+	13. TOTAL_____	=	÷	=	÷	=	X	=
		9. TOTAL_____ X	=	+	13. TOTAL_____	=	÷	=	÷	=	X	=

PART II AFTER HEADING

21. Field ID	22. Drill Space									28. Total Kernels All Samples	29. No. Samples	30. Avg. Kernels Per Sample	31. Sq. Ft. Factor	32. Avg. Kernels Per Sq. Ft.	33. Yield Factor	34. Bu. Per Acre Appraisal
		23. No. Kernels (Five Heads) From Each Sample Plot	71	0	87	53										
			÷	÷	÷	÷	÷	÷	÷							
		24. No. Heads Sampled	5	5	5	5	5	5	5							
			=	=	=	=	=	=	=							
		25. Avg. No. Kernels Per Head	14.2	0	17.4	10.6										
			x	x	x	x	x	x	x							
C	12.0	26. Total Number Heads From Each Sample Plot	250	0	45	24										
			=	=	=	=	=	=	=							
		27. Total Kernels Per Sample	3550.0	+ 0.0	+ 783.0	+ 254.4	+	+	+	=	4587.4	÷ 4	= 1146.9	÷ 10	= 114.7	÷ 22	= 5.2
		23. No. Kernels (Five Heads) From Each Sample Plot														
			÷	÷	÷	÷	÷	÷	÷							
		24. No. Heads Sampled	5	5	5	5	5	5	5							
			=	=	=	=	=	=	=							
		25. Avg. No. Kernels Per Head														
			x	x	x	x	x	x	x							
		26. Total Number Heads From Each Sample Plot														
			=	=	=	=	=	=	=							
		27. Total Kernels Per Sample		+	+	+	+	+	+	=		÷	=	÷	=	÷	=

This form example does not illustrate all required entry items (e.g., signatures, dates, etc.).

Form Standards – Appraisal Worksheet for Flax

Verify and/or make the following entries for each appraisal worksheet element/item number. A completed appraisal worksheet example is at the end of this exhibit. For general form standards and other general information, see subparagraph 2D and paragraph 36.

	Element/Item Number	Standard
	Company	Name of AIP if not preprinted on the worksheet (Company Name).
	Claim Number	Claim number as assigned by the AIP.
1.	Insured's Name	Name of the insured that identifies EXACTLY the person (legal entity) to whom the policy is issued.
2.	Policy No.	Insured's assigned policy number.
3.	Unit No.	Unit number from the acreage report after it is verified to be correct.
4.	Crop	Flax.
5.	Crop Year	Four-digit crop year, as defined in the policy, for which the claim is filed.
Part I – Before Boll Development		
6.	Field ID	Field or subfield identification symbol.
7.	Row Space	Row width to nearest one-half inch. If broadcast, enter "B." Refer to Part 4, paragraph 33 for row width determination information.
8.	No. Plants	Number of live plants capable of producing flaxseed in each sample.
9.	Total Plants	Total number of plants in all samples from item 8.
10.	No. Samples	Total number of sample plots from item 8.
11.	Avg. No. Plants	Result of dividing item 9 by item 10, rounded to tenths.
12.	Sq. Ft. Factor	Square Foot Factor from exhibit 8.
13.	Avg. Plants Per Sq. Ft.	Result of dividing item 11 by item 12, rounded to tenths.
14.	Bu. Per Acre Appraisal	Result of multiplying item 13 by .80 (yield factor), rounded to nearest tenth.
Part II – After Boll Development		
15.	Field ID	Field or subfield identification symbol.
16.	Row Space	Row width to nearest one-half inch. If broadcast, enter "B." Refer to Part 4, paragraph 33 for row width determination information.
17.	No. Plants Per Sample	Number of plants in each sample.
18.	Avg. Bolls Per Plant	Select **FIVE** representative plants from each sample plot. Count the number of bolls and divide by "5." Enter the average number of bolls per plants (rounded to the nearest whole number).

Form Standards – Appraisal Worksheet for Flax (Continued)

19. Avg. Kernels Per Boll	Select **TEN** representative bolls from each sample and count the flaxseed kernels. Divide the number of flaxseed kernels by "10." Enter the average number of kernels per boll (Round to the nearest whole number).
20. Total (Number of Plants)	Total number of plants in all samples from item 17.
21. Total (Number Bolls)	Total number of bolls in all samples from item 18.
22. Total (Number Kernels)	Total number of kernels in all representative heads from item 19.
23. No. Samples	Total number of sample plots.
24. Avg. Plants	Result of dividing item 20 by item 23, rounded to tenths.
25. Avg. Bolls	Result of dividing item 21 by item 23, rounded to tenths.
26. Avg. Kernels	Result of dividing item 22 by item 23, rounded to tenths.
27. Total Avg. Kernels	Result of multiplying item 24 by item 25 by item 26 (rounded to tenths after last calculation.)
28. Sq. Ft. Factor	Square Foot Factor from exhibit 8.
29. Avg.Kernel Per Sq. Ft.	Result of dividing item 27 by item 28, rounded to the nearest tenth.
30. Bu. Per Acre Appraisal	Result of dividing item 29 by "100" (yield factor), rounded to the nearest tenth.
The following required entries are not illustrated on the Appraisal Worksheet example below.	
31. Insured's Signature and Date	Insured's (or insured's authorized representative's) signature and date. BEFORE obtaining insured's signature, REVIEW ALL ENTRIES on the Appraisal Worksheet WITH THE INSURED, (or insured's authorized representative) particularly explaining codes, etc., which may not be readily understood.
32. Adjuster's Signature, Code Number and Date	Signature of adjuster, code number, and date signed **after** the insured (or insured's authorized representative) has signed. If the appraisal is performed prior to signature date, document the date of appraisal in the Remarks/Narrative section of the Appraisal Worksheet (if available); otherwise, document the appraisal date in the Narrative of the Production Worksheet.
Page Number	Page numbers - (Example: Page 1 of 1, Page 1 of 2, Page 2 of 2, etc.).

Form Standards – Appraisal Worksheet for Flax (Continued)

Company: Any Company **Claim No.:** XXXXXXXX

For Illustration Purposes Only

APPRAISAL WORKSHEET (Flax)

1 INSURED'S NAME	2 POLICY NO.	3 UNIT NO.	4 CROP	5 CROP YEAR
I. M. INSURED	XXXXXXX	0001-0001 BU	Flax	YYYY

PART 1 – BEFORE BOLL DEVELOPMENT

FIELD ID 6	ROW SPACE 7	8. NO. PLANTS (Each block equals total plants for one sample)					TOTAL PLANTS 9		NO. SAMPLES 10		AVG. NO. PLANTS 11		SQ. FT. FACTOR 12		AVG. PLANTS PER SQ. FT. 13		YIELD FACTOR		BU. PER ACRE APPRAISAL 14
B	7.0	40	22	31	5	10	108	÷	5	=	21.6	÷	5.8	=	3.7	X	**.80**	=	3.0
								÷		=		÷		=		X	**.80**	=	
								÷		=		÷		=		X	**.80**	=	

PART II – AFTER BOLL

FIELD ID 15	ROW SPACE 16	NUMBER OF PLANTS, BOLLS AND KERNELS (Each column of three blocks equals one sample)							TOTAL		NO. SAMPLES 23	AVG. PLANTS X BOLLS X KERNELS		TOTAL AVG. KERNELS (All Samples) 27		SQ. FT. FACTOR 28		AVG. KERNEL PER SQ. FT. 29		YIELD FACTOR		BU. PER ACRE APPRAISAL 30
		17 NO. PLANTS PER SAMPLE							20 =	÷		24 =	X		÷		=		÷	**100**	=	
		18 AVG. BOLLS PER PLANT							21 =	÷		25 =	X									
		19 AVG. KERNELS PER BOLL							22 =	÷		26 =	=									
		17 NO. PLANTS PER SAMPLE							20 =	÷		24 =	X		÷		=		÷	**100**	=	
		18 AVG. BOLLS PER PLANT							21 =	÷		25 =	X									
		19 AVG. KERNELS PER BOLL							22 =	÷		26 =	=									
		17 NO. PLANTS PER SAMPLE							20 =	÷		24 =	X		÷		=		÷	**100**	=	
		18 AVG. BOLLS PER PLANT							21 =	÷		25 =	X									
		19 AVG. KERNELS PER BOLL							22 =	÷		26 =	=									

This form example does not illustrate all required entry items (e.g., signatures, dates, etc.).

Form Standards – Appraisal Worksheet for Flax (Continued)

Company: ANY COMPANY **Claim No:** XXXXXXXX

For Illustration Purposes Only	1 INSURED'S NAME	2 POLICY NO.	3 UNIT NO.	4 CROP	5 CROP YEAR
APPRAISAL WORKSHEET (Flax)	I. M. INSURED	XXXXXXX	0001-0001 BU	FLAX	YYYY

PART 1 – BEFORE BOLL DEVELOPMENT

FIELD ID 6	ROW SPACE 7	8. NO. PLANTS (Each block equals total plants for one sample)					TOTAL PLANTS 9		NO. SAMPLES 10		AVG. NO. PLANTS 11		SQ. FT. FACTOR 12		AVG. PLANTS PER SQ. FT. 13		YIELD FACTOR		BU. PER ACRE APPRAISAL 14
								÷		=		÷		=		X	.80	=	
								÷		=		÷		=		X	.80	=	
								÷		=		÷		=		X	.80	=	

PART II – AFTER BOLL

FIELD ID 15	ROW SPACE 16		NUMBER OF PLANTS, BOLLS AND KERNELS (Each column of three blocks equals one sample)						TOTAL		NO. SAMPLES 23	AVG. PLANTS X BOLLS X KERNELS		TOTAL AVG. KERNELS (All Samples) 27	SQ. FT. FACTOR 28	AVG. KERNEL PER SQ. FT. 29		YIELD FACTOR		BU. PER ACRE APPRAISAL 30
C	7.0	17	NO. PLANTS PER SAMPLE	10	15	20	10	20	15	20 = 90	÷	6	24 = 15.0	X	936.0	÷ 5.8	= 161.4	÷	100	= 1.6
		18	AVG. BOLLS PER PLANT	10	8	10	8	4	8	21 = 48	÷		25 = 8.0	X						
		19	AVG. KERNELS PER BOLL	8	6	5	10	10	8	22 = 47	÷		26 = 7.8	=						
		17	NO. PLANTS PER SAMPLE							20 =	÷		24 =	X		÷	=	÷	100	=
		18	AVG. BOLLS PER PLANT							21 =	÷		25 =	X						
		19	AVG. KERNELS PER BOLL							22 =	÷		26 =	=						
		17	NO PLANTS PER SAMPLE							20 =	÷		24 =	X		÷	=	÷	100	=
		18	AVG. BOLLS PER PLANT							21 =	÷		25 =	X						
		19	AVG. KERNELS PER BOLL							22 =	÷		26 =	=						

This form example does not illustrate all required entry items (e.g., signatures, dates, etc.).

Form Standards – Appraisal Worksheet for Buckwheat

Verify and/or make the following entries for each appraisal worksheet element/item number. A completed appraisal worksheet example is at the end of this exhibit. For general form standards and other general information, see subparagraph 2D and paragraph 36.

Element/Item Number	Standard
Company	Name of AIP if not preprinted on the worksheet (Company Name).
1. Insured's Name	Name of the insured that identifies EXACTLY the person (legal entity) to whom the policy is issued.
2. Policy Number	Insured's assigned policy number.
3. Claim Number	The claim number assigned by the AIP.
4. Unit Number	Unit number from the Summary of Coverage after it is verified to be correct.
5. Crop Year	Crop year, as defined in the policy for buckwheat for which the claim has been filed.
6. Stage	The stage of growth at the time damage occurred as shown in exhibit 15**,** "GROWTH STAGES OF BUCKWHEAT."
7. Cause of Loss	Name of insured causes(s) of loss for this crop as listed in the LAM. If an insured cause of loss is coded as "Other," explain in the "Remarks.".
8. Date of Damage	First three letters of the month during which MOST of the insured damage (including progressive damage) occurred. Include SPECIFIC DATE where applicable, as in the case of hail damage (e.g., Jul 7).
9. Variety	Variety of buckwheat planted on the acreage represented on the appraisal worksheet (refer to exhibit 31). After the variety entry, record either "LS" (Large Seeded) or "SS" (Small Seeded) to indicate whether the variety is large or small seeded. If the variety is not found in exhibit 31, the adjuster should consult with the processor, county extension, etc. to determine if "LS" or "SS." Only one variety should be represented on an appraisal worksheet. If multiple varieties exist within the same unit complete multiple worksheets.
10. Row Width	Row width to nearest one-half inch. If broadcast, enter "B." Refer to Part 4, paragraph 33 for row width determination information.
11. Acres	Number of determined acres to tenths, in the field or subfield being appraised.
12. Field ID	Field or subfield identification symbol as shown on a sketch map or aerial photo.
13. Practice	Three-digit code number entered exactly as specified on the actuarial documents, for the practice carried out by the insured. If "No Practice Specified" enter appropriate 3-digit code number from the actuarial documents.
14. Sample Number	MAKE NO ENTRY. Sample identification numbers are on the appraisal form. If more than eight samples are needed, (refer to exhibit 7 for minimum sample requirements) use additional pages, and number the samples 9, 10, 11, etc.
Complete items 15 through 17 only if the acreage is in growth stage of Emergence through N-8 at time of damage; otherwise, MAKE NO ENTRY.	

Form Standards – Appraisal Worksheet for Buckwheat (Continued)

15. Number of Original Plants	Original number of buckwheat plants in 10 ft. of row for drilled acreage, or the number of plants in a 3-foot by 3-foot area for broadcast seeding.
16. Number of Plants Totally Destroyed	The number of plants totally destroyed from the sample (10 ft. of row, or the 3-foot by 3-foot area for broadcast seeding) in item 15 above.
17. % of Stand Reduction	The result of dividing item 16 by item 15, rounded to the nearest 5%. This result is the stand reduction percentage incurred during the emergence through N-8 stages of growth.
18. Number of Late Growth Stage Plants Destroyed	(Complete this entry only for acreage that has reached the N-9 growth stage, but has less than 70% of seeds that have turned brown or black at time of loss; otherwise MAKE NO ENTRY). Select 100 consecutive plants including those missing or destroyed. Count the number of plants destroyed.
19. Damage Due to Stand Reduction or Late Stage Plants Destroyed	a. If the appraisal is for early stage stand reduction refer to item 17 and to exhibit 20, to arrive at the entry for percent of damage converted to three decimal places. b. If the appraisal is for stage N-9 or later (Late Stage Plants Destroyed) stand reduction, enter the amount shown in item 18 divided by 100, rounded to 3 decimal places.
20. Potential Remaining (1.000 – Item 19)	1.000 minus item 19 entry, to three decimal places.
21. % Plant Damage	Percentage of plant damage as outlined in Subparagraph 6 G, rounded to the nearest 5% . Use Notes section to record nodes cutoff/broken over.
22. **%** Damage From Plant Damage	Using the percentage entered in item 21, refer to exhibit 21 for the appropriate percentage of damage to be entered. Convert percentage determined to three decimal places.
23. Net Plant Damage (20 x 22)	Item 20, potential remaining, times item 22, percent damage due to plant damage, rounded to three decimal places.
24. Net Potential Remaining (20 – 23)	Item 20 minus item 23, to three decimal places.
25. Total	Total of item 24, to three decimal places.
26. Average Potential Remaining	Item 25 divided by number of samples, rounded to three decimal places.
27. APH Yield	Approved APH yield in whole bushels as found on the APH form.
28. Appraisal	Item 26 times item 27, in bushels, rounded to tenths.
SEED COUNT	
29. Sample Number	MAKE NO ENTRY. Sample identification numbers are on the appraisal form. If more than ten samples are needed, (refer to exhibit 7 for minimum sample requirements) use additional pages, and number the samples 11, 12, 13, etc.

Form Standards – Appraisal Worksheet for Buckwheat (Continued)

30. Harvestable Plants	Total number of harvestable plants in 10 ft. of row, or the total number of harvestable plants in a 3-foot by 3-foot area for broadcast seeding.
31. Plants per Foot	Item 30 divided by 10 for a 10 ft. row length or divide by 9 for broadcast seeded, rounded to tenths.
32. Total Seeds (5 Rep. Plants)	Total number of seeds from 5 representative plants. If there were no remaining or harvestable plants in the representative sample area, or the plants have no seeds, enter "0."
33. Total	Total of item 31.
34. Total	Total of item 32.
35. No. of Samples	Total number of samples.
36. Total Rep. Plants	Total number of representative plants counted.
37. Factor	The factor found in exhibit 9 for the row width listed in item 10.
38. Seed Size Factor	Enter .0167 for large seeded varieties or .0144 for small seeded varieties (Refer to exhibit 31).
39. Average Plants/Foot	Item 33 divided by item 35, rounded to the nearest tenth.
40. Average Seeds/Plants	Item 34 divided by item 36, rounded to the nearest tenth.
41. Appraisal (Bu./A)	The result of multiplying items 37, 38, 39 and 40, rounded to tenths.
42. Remarks	Enter pertinent information about the appraisal. Include any appropriate calculations which resulted in damage to the crop.
The following required entries are not illustrated on the Appraisal Worksheet example below.	
43. Insured's Signature, and Date	Insured's (or insured's authorized representative's) signature and date. BEFORE obtaining the insured's signature, REVIEW ALL ENTRIES on the Appraisal Worksheet WITH THE INSURED (or insured's authorized representative), particularly explaining codes, etc., which may not be readily understood.
44. Adjuster's Signature, Code No., and Date	Signature of adjuster, code number, and date signed **after** the insured (or insured's authorized representative) has signed. If the appraisal is performed prior to signature date, document the date of appraisal in the Remarks section of the Appraisal Worksheet (if available); otherwise, document the appraisal date in the Narrative of the Production Worksheet.
45. Page Number	Page numbers – (Example: Page 1 of 1, Page 1 of 2, Page 2 of 2, etc.).

Form Standards – Appraisal Worksheet for Buckwheat (Continued)

COMPANY: **Any Company**

BUCKWHEAT APPRAISAL WORKSHEET
(FOR ILLUSTRATIONS PURPOSES ONLY)

1. INSUREDS NAME	2. POLICY NUMBER	3. CLAIM NUMBER
I.M. Insured	XXXXXXX	XXXXXXXX

4. UNIT NUMBER	5. CROP YEAR	6. STAGE	7. CAUSE OF LOSS
0001-0001 BU	YYYY	N3	HAIL

8. DATE OF DAMAGE	9. VARIETY	10. ROW WIDTH	11. ACRES	12. FIELD ID	13. PRACTICE
Jul 7	Koban - LS	7.5	40.0	1	003

STAND REDUCTION AND PLANT DAMAGE

	EMERGENCE THROUGH N-8 STAGE			N-9 STAGE TO SEED COUNT APPRAISALS			PLANT DAMAGE				COMPUTATIONS
SAMPLE NUMBER 14	NUMBER OF ORIGINAL PLANTS 15	NUMBER OF PLANTS TOTALLY DESTROYED 16	% OF STAND REDUCTION 17	NUMBER OF LATE GROWTH STAGE PLANTS DESTROYED 18	DAMAGE DUE TO STAND REDUCTION OR LATE STAGE PLANTS DESTROYED 19	POTENTIAL REMAINING (1.000 – Item 19) 20	% PLANT DAMAGE 21	% DAMAGE FROM PLANT DAMAGE 22	NET PLANT DAMAGE (20 x 22) 23	NET POTENTIAL REMAINING (20 – 23) 24	26. AVERAGE POTENTIAL REMAINING .825
1	106	62	60		.015	.985				.985	X
2	95	71	75		.230	.770				.770	27. APH YIELD
3	100	65	65		.060	.940				.940	
4	98	72	75		.230	.770				.770	22
5	102	80	80		.340	.660				.660	
6											=
7											28. APPRAISAL
8											
BUCKWHEAT FIELD NOTES										25. TOTAL 4.125	18.2

SEED COUNT

29. SAMPLE NUMBER	1	2	3	4	5	6	7	8	9	10		37. FACTOR X
30. HARVESTABLE PLANTS												38. SEED SIZE FACTOR X
31. PLANTS PER FOOT											33. TOTAL ÷ 35. NO. OF SAMPLES =	39. AVERAGE PLANTS/FOOT X
32. TOTAL SEEDS (5 REP. PLANTS)											34. TOTAL ÷ 36. TOTAL REP. PLANTS =	40. AVERAGE SEEDS/PLANTS =
42. REMARKS												41. APPRAISAL (BU/A)

This form example does not illustrate all required entry items (e.g., signatures, dates, etc.).

Form Standards – Appraisal Worksheet for Buckwheat (Continued)

COMPANY: **Any Company**

BUCKWHEAT APPRAISAL WORKSHEET (FOR ILLUSTRATIONS PURPOSES ONLY)	1. INSUREDS NAME: I.M. Insured	2. POLICY NUMBER: XXXXXX	3. CLAIM NUMBER: XXXXXXXX
	4. UNIT NUMBER: 0001-0001 BU	5. CROP YEAR: YYYY	6. STAGE: N-11	7. CAUSE OF LOSS: HAIL
	8. DATE OF DAMAGE: Sept 7	9. VARIETY: Koban - LS	10. ROW WIDTH: 7.5	11. ACRES: 40.0	12. FIELD ID: 1	13. PRACTICE: 003

STAND REDUCTION AND PLANT DAMAGE

	EMERGENCE THROUGH N-8 STAGE			N-9 STAGE TO SEED COUNT			PLANT DAMAGE				COMPUTATIONS
SAMPLE NUMBER 14	NUMBER OF ORIGINAL PLANTS 15	NUMBER OF PLANTS TOTALLY DESTROYED 16	% OF STAND REDUCTION 17	NUMBER OF LATE GROWTH STAGE PLANTS DESTROYED 18	DAMAGE DUE TO STAND REDUCTION OR LATE STAGE PLANTS DESTROYED 19	POTENTIAL REMAINING (1.000 – Item 19) 20	% PLANT DAMAGE 21	% DAMAGE FROM PLANT DAMAGE 22	NET PLANT DAMAGE (20 x 22) 23	NET POTENTIAL REMAINING (20 – 23) 24	26. AVERAGE POTENTIAL REMAINING .505
1				12	.120	.880	30.0	.255	.224	.656	X
2				25	.250	.750	40.0	.365	.274	.476	27. APH YIELD
3				22	.220	.780	50.0	.475	.371	.409	
4				18	.180	.820	30.0	.255	.209	.611	22
5				41	.410	.590	40.0	.365	.215	.375	
6											=
7											28. APPRAISAL
8											
BUCKWHEAT FIELD NOTES										**25.** TOTAL 2.527	11.1

SEED COUNT

29. SAMPLE NUMBER	1	2	3	4	5	6	7	8	9	10		37. FACTOR X
30. HARVESTABLE PLANTS												38. SEED SIZE FACTOR X
31. PLANTS PER FOOT											33. TOTAL ÷ 35. NO. OF SAMPLES =	39. AVERAGE PLANTS/FOOT X
32. TOTAL SEEDS (5 REP. PLANTS)											34. TOTAL ÷ 36. TOTAL REP. PLANTS =	40. AVERAGE SEEDS/PLANTS =
42. REMARKS												41. APPRAISAL (BU/A)

This form example does not illustrate all required entry items (e.g., signatures, dates, etc.).

Form Standards – Appraisal Worksheet for Buckwheat (Continued)

COMPANY: **Any Company**

BUCKWHEAT APPRAISAL WORKSHEET (FOR ILLUSTRATIONS PURPOSES ONLY)	1. INSUREDS NAME: I.M. Insured	2. POLICY NUMBER: XXXXXX	3. CLAIM NUMBER: XXXXXXXX
	4. UNIT NUMBER: 0001-0001 BU	5. CROP YEAR: YYYY	6. STAGE: N-12 Harvest Ready	7. CAUSE OF LOSS: Hail
	8. DATE OF DAMAGE: Jul 7	9. VARIETY: Koban - LS	10. ROW WIDTH: 7.5	11. ACRES: 40.0	12. FIELD ID: 1	13. PRACTICE: 003

STAND REDUCTION AND PLANT DAMAGE

	EMERGENCE THROUGH N-8 STAGE			N-9 STAGE TO SEED COUNT			PLANT DAMAGE				COMPUTATIONS
SAMPLE NUMBER 14	NUMBER OF ORIGINAL PLANTS 15	NUMBER OF PLANTS TOTALLY DESTROYED 16	% OF STAND REDUCTION 17	NUMBER OF LATE GROWTH STAGE PLANTS DESTROYED 18	DAMAGE DUE TO STAND REDUCTION OR LATE STAGE PLANTS DESTROYED 19	POTENTIAL REMAINING (1.000 – Item 19) 20	% PLANT DAMAGE 21	% DAMAGE FROM PLANT DAMAGE 22	NET PLANT DAMAGE (20 x 22) 23	NET POTENTIAL REMAINING (20 – 23) 24	26. AVERAGE POTENTIAL REMAINING
1											X
2											
3											27. APH YIELD
4											
5											
6											=
7											28. APPRAISAL
8											
BUCKWHEAT FIELD NOTES										25. TOTAL	

SEED COUNT

29. SAMPLE NUMBER	1	2	3	4	5	6	7	8	9	10		37. FACTOR 7.0 X
30. HARVESTABLE PLANTS	80	90	50	35	65							38. SEED SIZE FACTOR .0167 X
31. PLANTS PER FOOT	8.0	9.0	5.0	3.5	6.5						33. TOTAL 32.0 ÷ 35. NO. OF SAMPLES 5 =	39. AVERAGE PLANTS/FOOT 6.4 X
32. TOTAL SEEDS (5 REP. PLANTS)	95	110	70	40	60						34. TOTAL 375 ÷ 36. TOTAL REP. PLANTS 25 =	40. AVERAGE SEEDS/PLANTS 15.0 =
42. REMARKS												41. APPRAISAL (BU/A) 11.2

This form example does not illustrate all required entry items (e.g., signatures, dates, etc.).

Form Standards - Production Worksheet

Verify and/or make the following entries for each production worksheet element/item number. A completed production worksheet example is at the end of this exhibit. For general form standards and other general information, see subparagraph 2D and paragraph 51.

Element/Item Number	Description
1. Crop/Code #	"Barley" (0091), "Buckwheat" (0114), "Flax" (0031), "Oats" (0016), "Rye" (0094), or "Wheat" (0011).
2. Unit #	Unit number from the Summary of Coverage after it is verified to be correct.
3. Location Description	Land location that identifies the legal description, if available, and the location of the unit (e.g., section, township, and range; FSA Farm Numbers; FSA Common Land Units (CLU) and tract numbers; GPS identifications; or Grid identifications) as applicable for the crop.
4. Date(s) of Damage	First three letters of the month(s) during which the determined insured damage occurred for the inspection and cause(s) of loss listed in item 5 below. If no entry in item 5 below MAKE NO ENTRY. For progressive damage, enter the month that identifies when the majority of the insured damage occurred. Include the SPECIFIC DATE where applicable as in the case of hail damage (e.g., Aug 11). Enter additional dates of damage in the extra spaces, as needed. If more space is needed, document the additional dates of damage in the Narrative (or on a Special Report). Refer to the illustration in item 6 below. If there is no insurable cause of loss, and a no indemnity due claim will be completed, MAKE NO ENTRY.
5. Cause(s) of Damage	Name of the determined insured cause(s) of damage for this crop as listed in the LAM for the date of damage listed in item 4 above. If an insured cause(s) of damage is coded as "Other," explain in the Narrative. Enter additional causes of damage in the extra spaces, as needed. If more space is needed, document the additional determined insured causes of damage in the Narrative (or on a Special Report). Refer to the illustration in item 6 below. If it is evident that no indemnity is due, enter "NO INDEMNITY DUE" across the columns in Item 5 (refer to the LAM for more information on no indemnity due claims).

<table>
<tr><th>Element/Item Number</th><th>Description</th></tr>
<tr><td>6. Insured Cause %</td><td>PRELIMINARY: MAKE NO ENTRY.

REPLANT AND FINAL: Whole percent of damage for the insured cause of damage listed in item 5 above. Enter additional “Insured Cause %” in the extra spaces, as needed. If additional space is needed, enter the additional determined “Insured Cause %” in the Narrative (or on a Special Report). The total of all “Insured Cause %” including those entered in the Narrative must equal 100%.

If there is no insurable cause of loss, and a no indemnity due claim will be completed, MAKE NO ENTRY.

Example entries for items 4-6 and the Narrative, reflecting entries for multiple dates of damage, the corresponding insured causes of damage and insured cause percents:

<table>
<tr><td>4. Date(s) of Damage</td><td>MAY</td><td>JUN 30</td><td>AUG</td></tr>
<tr><td>5. Cause(s) of Damage</td><td>Excess Moisture</td><td>Hail</td><td>Drought</td></tr>
<tr><td>6. Insured Cause %</td><td>40</td><td>20</td><td>30</td></tr>
<tr><td colspan="4">Narrative: Additional date of damage – SEP 5; Cause of Damage – Freeze; Insured cause percent – 10%</td></tr>
</table>
</td></tr>
<tr><td>7. Company/Agency</td><td>Name of company and agency servicing the contract.</td></tr>
<tr><td>8. Name of Insured</td><td>Name of the insured that identifies EXACTLY the person (legal entity) to whom the policy is issued.</td></tr>
<tr><td>9. Claim #</td><td>Claim number as assigned by the AIP.</td></tr>
<tr><td>10. Policy #</td><td>Insured’s assigned policy number.</td></tr>
<tr><td>11. Crop Year</td><td>Four-digit crop year, as defined in the policy, for which the claim is filed.</td></tr>
<tr><td>12. Additional Units</td><td>PRELIMINARY AND REPLANT: MAKE NO ENTRY.

FINAL: Unit number(s) for ALL non-loss units for the crop at the time of final inspection. A non-loss unit is any unit for which a Production Worksheet has not been completed. Additional non-loss units may be entered on a single Production Worksheet.

If more spaces are needed for non-loss units, enter the unit numbers, identified as “Non-Loss Units,” in the Narrative or on an attached Special Report.</td></tr>
</table>

Element/Item Number	Description
13. Est. Prod. Per Acre	**PRELIMINARY AND REPLANT:** MAKE NO ENTRY. **FINAL:** Estimated yield per acre, in whole bushels, of **ALL** non-loss units for the crop at the time of final inspection.
14. Date(s) Notice of Loss	**PRELIMINARY:** a. Date the first or second notice of damage or loss was given for the unit in item 2, in the 1st or 2nd space, as applicable. Enter the complete date (MM/DD/YYYY) for each notice. b. A notice of damage or loss for a third preliminary inspection (if needed) requires an additional set of Production Worksheets. Enter the date of notice for a third preliminary inspection in the 1st space of item 14 on the second set of Production Worksheets. c. Reserve the "Final" space on the first page of the first set of Production Worksheets for the date of notice for the final inspection. d. If the inspection is initiated by the AIP, enter "Company Insp." instead of the date. e. If the notice does not require an inspection, document as directed in the Narrative instructions. **REPLANT AND FINAL:** Transfer the last date (in the 1st or 2nd space from the first or second set of Production Worksheets) to the FINAL space on the first page of the first set of Production Worksheets if a final inspection should be made as a result of the notice. Always enter the complete date of notice (MM/DD/YYYY) for the "FINAL" inspection in the final space on the first set of production worksheets. For a delayed notice of loss or delayed claim, refer to the LAM.

Element/Item Number	Description
15. Companion Policy(s)	a. If no other person has a share in the unit (insured has 100 percent share), MAKE NO ENTRY. b. In all cases where the insured has LESS than a 100 percent share of a loss-affected unit, ask the insured if the OTHER person sharing in the unit has a multiple-peril crop insurance contract (i.e., not crop-hail, fire, etc.). If the other person does not, enter "NONE." (1) If the other person has a multiple-peril crop insurance contract and it can be determined that the SAME AIP services it, enter the contract number. Handle these companion policies according to AIP instructions. (2) If the OTHER person has a multiple-peril crop insurance contract and a DIFFERENT AIP or agent services it, enter the name of the AIP and/or agent (and contract number) if known. (3) If unable to verify the existence of a companion contract, enter "Unknown" and contact the AIP for further instructions. c. Refer to the LAM for further information regarding companion contracts.

Section I – Determined Acreage Appraised, Production and Adjustments

Make separate line entries for varying:

(1) Rate classes, types, class, sub-class, intended use, irrigated practice, cropping practice, or organic practices, as applicable;

(2) APH yields;

(3) Appraisals;

(4) Adjustments to appraised mature production (moisture and/or quality adjustment factors);

(5) Stages or intended use(s) of acreage;

(6) Shares (e.g., 50 percent and 75 percent shares on the same unit); or

(7) Appraisals for damage due to hail or fire if Hail and Fire Exclusion is in effect.

Form Standards - Production Worksheet (Continued)

Element/Item Number	Description
16. Field ID	The field identification symbol from a sketch map or an aerial photo. Refer to the Narrative. Where acreage is PARTLY replanted, omit the field ID symbol for the fields that have not been replanted and that have been consolidated into a single line entry.
17. Multi-Crop Code	**REPLANT:** MAKE NO ENTRY. **PRELIMINARY AND FINAL:** The applicable two-digit code for first crop and second crop. REFER TO THE LAM FOR INSTRUCTIONS REGARDING ENTRY OF FIRST CROP AND SECOND CROP CODES.
18. Reported Acres	In the event of over-reported acres, handle in accordance with the individual AIP's instructions. In the event of under-reported acres, enter the reported acres to tenths for the field or sub field. If there are no under-reported acres MAKE NO ENTRY.
19. Determined Acres	Refer to the LAM for definition of acceptable determined acres used herein. Enter the determined acres to tenths for the field or subfield for which consent is given for other use and/or: a. Put to other use without consent; b. Abandoned; c. Damaged by uninsured causes; or d. For which the insured failed to provide acceptable records of production. Refer to the LAM for procedures regarding when estimated acres are allowed and documentation requirements. **REPLANT:** Determine the total acres, to tenths, of replanted acreage (DO NOT ESTIMATE). Make a separate line entry for any PART of a field NOT replanted. a. Determine the planted acreage of any fields NOT replanted. Consolidate it into a single line entry UNLESS the usual reasons for separate line entries apply. Record the field identities (from a map or aerial photo) in the Narrative. b. ACCOUNT FOR ALL PLANTED ACREAGE IN THE UNIT. **PRELIMINARY AND FINAL:** Determined acres to tenths.

Form Standards - Production Worksheet (Continued)

Element/Item Number	Description
19. Determined Acres (Continued)	Acreage breakdowns WITHIN a unit or field may be estimated (refer to the LAM) if a determination is impractical. ACCOUNT FOR ALL PLANTED ACREAGE IN THE UNIT.
20. Interest or Share	Insured's interest in the crop to three decimal places as determined at the time of inspection. If shares vary on the same UNIT, use separate line entries.
21. Risk	Three-digit code for the correct "Rate" as specified on the actuarial document maps. If a "Rate" or "High-Risk Area" is not specified on the actuarial document maps, MAKE NO ENTRY. Verify with the Summary of Coverage and if the "Rate" is found to be incorrect, revise according to the AIP's instructions. Refer to the LAM. Unrated land is uninsurable without a written agreement.
22. Type	Three-digit code number, entered exactly as specified on the actuarial documents for the type grown by the insured. If "No Type Specified" is shown in the actuarial documents, enter the appropriate three-digit code number from the actuarial documents (e.g., 997). If a type is not specified on the actuarial documents, MAKE NO ENTRY.
23. Class	Three-digit code number, entered exactly as specified on the actuarial documents for the class grown by the insured. If "No Class Specified" is shown in the actuarial documents, enter the appropriate three-digit code number from the actuarial documents (e.g., 997). If a class is not specified on the actuarial documents, MAKE NO ENTRY.
24. Sub-Class	Three-digit code number, entered exactly as specified on the actuarial documents for the sub-class grown by the insured. If "No Sub-Class Specified," is shown in the actuarial documents, enter the appropriate three-digit code number from the actuarial documents (e.g., 997). If a sub-class is not specified on the actuarial documents, MAKE NO ENTRY.
25. Intended Use	Three-digit code number, entered exactly as specified on the actuarial documents for the intended use of the crop grown by the insured. If "No Intended Use Specified" is shown in the actuarial documents, enter the appropriate three-digit code number from the actuarial documents (e.g., 997). If an intended use is not specified on the actuarial documents, MAKE NO ENTRY.

Element/Item Number	Description
26. Irr. Practice	Three-digit code number, entered exactly as specified on the actuarial documents for the irrigated practice carried out by the insured. If "No Irrigated Practice Specified" is shown in the actuarial documents, enter the appropriate three-digit code number from the actuarial documents (e.g., 997). If an irrigated practice is not specified on the actuarial documents, MAKE NO ENTRY.
27. Cropping Practice	Three-digit code number, entered exactly as specified on the actuarial documents for the cropping practice (or practice) carried out by the insured. If "No Cropping Practice" or "No Practice Specified" is shown in the actuarial documents, enter the appropriate three-digit code number from the actuarial documents (e.g., 997). If a cropping practice is not specified on the actuarial documents, MAKE NO ENTRY.
28. Organic Practice	Three-digit code number, entered exactly as specified on the actuarial documents for the organic practice carried out by the insured. If "No Organic Practice Specified" is shown in the actuarial documents, enter the appropriate three-digit code number from the actuarial documents (e.g., 997). If an organic practice is not specified on the actuarial documents, MAKE NO ENTRY.
29. Stage	**PRELIMINARY:** MAKE NO ENTRY. **REPLANT:** Replant stage abbreviation as shown below. **STAGE** — **EXPLANATION** "R"..... Acreage replanted and qualifying for replanting payment. "NR"..... Acreage not replanted or not qualifying for a replanting payment. Enter "NR" if the combined potential production appraisal and uninsured cause appraisal totals 90 percent or more of the guarantee for replanting claims. **FINAL:** Stage abbreviation as shown below. **STAGE** — **EXPLANATION** "P"..... Acreage abandoned without consent, put to other use without consent, damaged solely by uninsured causes, or for which the insured failed to provide acceptable records of production to the AIP.

Form Standards - Production Worksheet (Continued)

Element/Item Number	Description
29. Stage (Continued)	"H"..... Harvested. "UH"..... Unharvested or put to other use with consent. **PREVENTED PLANTING**: **Refer to the Prevented Planting Handbook for proper codes for any eligible prevented planting acreage.** **GLEANED ACREAGE: Refer to the LAM for information on gleaning.**
30. Use of Acreage	Use of acreage. Use the following "Intended Use" abbreviations. **USE** — **EXPLANATION** "Replant"…… Acreage replanted and qualifying for replanting payment "Not Replanted"……. Acreage not replanted or not qualifying for a replanting payment "To Millet"……. Use made of the acreage "WOC"…….. Other use without consent "SU"……... Solely uninsured "ABA"…… Abandoned without consent "H"……. Harvested "UH"…….. Unharvested Verify any "Intended Use" entry. If final use of the acreage was not as indicated, strike out the original line and initial it. Enter all data on a new line showing the correct "Final Use." Refer to the LAM regarding "WOC" and short rated acreage. **PREVENTED PLANTING: Refer to the Prevented Planting Handbook for proper codes for any eligible prevented planting acreage.** **GLEANED ACREAGE: Refer to the LAM for information on gleaning.**
31. Appraised Potential	**REPLANT:** Enter the bushels per acre allowed for replanting to the nearest tenth as determined from the replant calculation documented in the Narrative. (Refer to Part 3, for qualifications and computations.)

Form Standards - Production Worksheet (Continued)

Element/Item Number	Description
31. Appraised Potential (Continued)	**PRELIMINARY AND FINAL:** Per-acre appraisal in bushels, to tenths, of POTENTIAL production for the acreage appraised as shown on the appraisal worksheet. Refer to Part 4, "Small Grains Appraisals" for additional instructions. If there is no potential on UH acreage, enter "0.0" ***
32a. Moisture %	**REPLANT:** MAKE NO ENTRY. **PRELIMINARY AND FINAL:** Moisture percent to nearest tenth only if in excess of the percentage stated in the applicable CP. Moisture adjustment is applied prior to applying any qualifying adjustment for quality. There is no moisture adjustment applicable to flax. ***
32b. Factor	**REPLANT:** MAKE NO ENTRY. **PRELIMINARY AND FINAL:** Moisture factor - For appraised mature grain production in excess of amount allowed in the applicable CP, obtain factor from exhibits 22 - 25 for the applicable crop.
33. Shell %, Factor, or Value	MAKE NO ENTRY.
34. Production Pre QA	**REPLANT:** Enter the result of multiplying column 31 times column 19 rounded to the nearest tenth. If no entry in column 31, MAKE NO ENTRY. **PRELIMINARY AND FINAL:** Result of multiplying column 31 times column 19, times column 32b, if applicable, rounded to tenths. If no entry in column 31, MAKE NO ENTRY.
35. Quality Factor	**REPLANT:** MAKE NO ENTRY. **PRELIMINARY AND FINAL:** For mature unharvested production which due to insurable causes qualifies for quality adjustment as provided in the CP, enter the Quality Adjustment Factor (QAF) as a three place decimal calculated in accordance with the Quality Statements in the SP (e.g., 1.000 - .750 discount factor = .250 QAF.)

Form Standards - Production Worksheet (Continued)

Element/Item Number	Description
35. Quality Factor (continued)	If the QAF is zero, enter ".000." Document all calculations in the Narrative of the Production Worksheet, or on a Special Report. Copies of all supporting documentation should be included in the insured's claim file. For additional quality adjustment definitions, instructions, documentation, qualifications, and testing requirements, refer to the LAM and the Official United States Standards for the crop. Also, refer to the quality adjustment instructions in the Narrative, herein. If appraised mature production is determined by the AIP to have zero market value, enter ".000." Refer to the SP and the LAM. ***
36. Production Post QA	**REPLANT:** Transfer the entry in item 34. **PRELIMINARY AND FINAL:** Result of multiplying column 34 times column 35, rounded to tenths. If no entry in column 35, transfer entry from column 34.
37. Uninsured Cause	**REPLANT:** MAKE NO ENTRY. **PRELIMINARY AND FINAL:** Result of per acre appraisal for uninsured causes (taken from appraisal worksheet or other documentation) multiplied by column 19, rounded to tenths. Refer to the LAM for information on how to determine uninsured cause appraisals. If no uninsured causes, MAKE NO ENTRY. a. Hail and Fire exclusion NOT in effect.

Element/Item Number	Description
37. Uninsured Cause (Continued)	(1) Enter the result of multiplying column 19 entry by NOT LESS than the insured's production guarantee per acre for yield protection or for revenue protection not less than the amount of production that when multiplied by the harvest price equals the revenue protection guarantee, in bushels, to tenths, for the line, (calculated by multiplying the elected coverage level percentage times the approved APH yield per acre shown on the APH form), for any "P" stage acreage. (2) On preliminary inspections, advise the insured to keep the harvested production from any acreage damaged SOLELY by uninsured causes separate from other production. Refer to the LAM for information on how to determine uninsured cause appraisals. (3) For acreage that is damaged PARTLY by uninsured causes, enter the result of multiplying the APPRAISED UNINSURED loss of production per acre in bushels to tenths, by column 19 entry for any such acreage b. When there is late-planted acreage, the applicable production guarantee for such acreage is the production guarantee per-acre that has been reduced for late-planted acreage, multiplied by column 19 entry. c. Refer to the LAM when a Hail and Fire Exclusion is in effect and damage is from hail or fire. d. Enter the result of adding uninsured cause appraisals to hail and fire exclusion appraisals. e. For fire losses, if the insured also has other fire insurance (double coverage), refer to the LAM.
38. Total to Count	Result of adding item 36 and item 37.
39. Total	**PRELIMINARY:** MAKE NO ENTRY. **REPLANT AND FINAL:** Total determined acres (column 19), to tenths.

<table>
<tr><th>Element/Item Number</th><th>Description</th></tr>
<tr><td>40. Quality</td><td>
REPLANT: MAKE NO ENTRY.

PRELIMINARY AND FINAL: Check the applicable qualifying quality adjustment (QA) condition(s) affecting the unit's production (refer to table below). Check all qualifying conditions that apply to the unit's appraised and harvested production (refer to the CP and SP).

<table>
<tr><th>Qualifying QA Condition:</th></tr>
<tr><td>Test Weight (TW)</td></tr>
<tr><td>Kernel Damage (KD) and Total Defects</td></tr>
<tr><td>Garlicky (Grade)</td></tr>
<tr><td>Aflatoxin</td></tr>
<tr><td>Vomitoxin</td></tr>
<tr><td>Fumonisin</td></tr>
<tr><td>Dark Roast (for Sunflowers only)</td></tr>
<tr><td>Sclerotinia (for Sunflowers only)</td></tr>
<tr><td>Ergoty (Grade)</td></tr>
<tr><td>COFO (commercially objectionable foreign odor) (includes Musty and Sour Odor)</td></tr>
<tr><td>Other</td></tr>
<tr><td>None</td></tr>
</table>
a. For all qualifying QA conditions checked, in the Narrative (or on a Special Report):

(1) Document the level for each qualifying QA condition as indicated by approved test results, and the name and location of each testing facility that verifies the presence of the qualifying QA condition and the date of the test(s); or

(2) Enter "See documentation included in the claim file" (e.g., include copy of the test facility certificate, grade certificate, summary or settlement sheet, etc., that documents the QA condition).

b. If "Other" is checked, in addition to the above documentation requirements, document in the Narrative (or on a Special Report):

(1) A description of the qualifying QA condition;

(2) The name of the controlling authority that considers this qualifying QA condition to be injurious to human or animal health and why.
</td></tr>
</table>

Element/Item Number	Description
40. Quality (Continued)	(3) Refer to Part 2, subparagraph 13 B if, due to insured causes, a Federal or State agency has ordered the appraised crop or production to be destroyed. c. Check "None" if none of the production qualifies for QA.
41. Mycotoxins exceed FDA, State, or other health organization maximum limits. Check "Yes:"	**REPLANT:** MAKE NO ENTRY. **PRELIMINARY AND FINAL:** Check "Yes" if any mycotoxins listed in item 40 (including any identified as "Other") exceed the FDA, state, or other health organization maximum limits, otherwise leave blank. Document in the Narrative (or on a Special Report), the disposition of the production that was: a. Sold, document the name and address of the buyer; or b. Not sold, document the date(s) of the disposition, how the production was used, or how it was destroyed. Refer to the LAM and the SP for additional information on mycotoxins.
42. Totals	Total of entries in columns 34, 36, 37 and 38. If a column has no entries, MAKE NO ENTRY.

NARRATIVE INSTRUCTIONS

If more space is needed, document on a Special Report, and enter "See Special Report." Attach the Special Report to the Production Worksheet.

a.	If no acreage is released on the unit, enter "No acreage released," adjuster's initials, and date.
b.	If notice of damage was given and no inspection is required, enter "No Inspection," the unit number(s), date, and adjuster's initials (do not enter unit numbers for which notice has not been given). The insured's signature is not required.
c.	Explain any uninsured causes, unusual, or controversial cases.
d.	If there is an appraisal in Section I, column 37 for uninsured causes due to a hail/fire exclusion, show the original hail/fire liability per acre and the hail/fire indemnity per acre.

e.	Document the actual appraisal date if an appraisal was performed prior to the adjuster's signature date on the appraisal worksheet, and the date of the appraisal is not recorded on the appraisal worksheet.
f.	State that there is "No other fire insurance" when fire damages or destroys the insured crop and it is determined that the insured has no other fire insurance. Also refer to the LAM.
g.	Explain any errors found on the Summary of Coverage.
h.	Explain any commingled production. Refer to the LAM.
i.	Explain any entry for "Production Not to Count" in Section II, column 62 and/or any production not included in Section II, column 56 or column 49 - 52 entries (e.g., harvested production from uninsured acreage that can be identified separately from the insured acreage in the unit).
j.	Explain a "No" checked in item 44.
k.	Attach a sketch map or aerial photo to identify the total unit: (1) If consent is or has been given to put part of the unit to another use or to replant; (2) If acreage has been replanted to a practice uninsurable as an original practice; (3) If uninsured causes are present; or (4) For unusual or controversial cases. Indicate on the aerial photo or sketch map, the disposition of acreage destroyed or put to other use with or without consent.
l.	Explain any difference between date of inspection and signature dates. For an ABSENTEE insured, enter the date of the inspection AND the date of mailing the Production Worksheet for signature.
m.	When any other adjuster or supervisor accompanied the adjuster on the inspection, enter the code number of the other adjuster or supervisor and the date of inspection.
n.	Explain the reason for a "No Indemnity Due" claim. "No Indemnity Due" claims are to be distributed in accordance with the AIP's instructions.
o.	Explain any delayed notices or delayed claims as instructed in the LAM.
p.	Document any authorized estimated acres, as instructed in the LAM, shown in Section I, column 19.
q.	Document the method and calculation used to determine acres for the unit. Refer to the LAM.
r.	Specify the type of insects or disease when the insured cause of damage or loss is listed as insects or disease. Explain why control measures did not work.
s.	Document the bushel per acre appraisal (plus appraisal for uninsured causes of loss, if applicable) for replanted acreage, and the calculations to show that the qualifications for a replanting payment have been met. Refer to Part 3, paragraph 22.

Form Standards - Production Worksheet (Continued)

t.	If any acreage to be replanted in the unit does not qualify for a replanting payment, enter Field No., "NOT QUAL FOR RP PAYMENT," date of inspection, adjuster's initials, and reason not qualified.
u.	For replant claims, indicate if the bushels allowed for replanting have/have not been reduced for share on the production worksheet according to individual AIP guidelines.
v.	For production that qualifies for Quality Adjustment (supporting documentation should be included in the insured's claim file): (1) Explain any ".000" quality adjustment (QA) factor entered in Section I, column 35 and Section II, column 65. (2) Explain any deficiencies, substances, or conditions that are allowed for quality adjustment, as well as any which were not allowed. (3) If mycotoxins are present, document the level based on laboratory test results. (4) If a Federal or State destruction order has been issued, attach to the production worksheet a copy of the Federal or State destruction order and the insured's completed Certification Form. (5) Document the DFs or the RIV's and Local Market Price, as applicable, used in establishing the QA factor for mature appraised or harvested production. (6) Refer to the LAM for documentation requirements when any excess transportation costs or conditioning costs are included in the QA factor. (7) Document all calculations used in determining QA factors. (8) Refer to the LAM for additional documentation requirements.
w.	Document field ID's, date, and method of destruction of mycotoxin-infested small grains if it has no market value. For further documentation instructions, refer to the LAM.
x.	Document the name and address of the charitable organization when gleaned acreage is applicable. Refer to the LAM for more information on gleaning.
y.	Document the type of wheat being appraised, if not indicated on the appraisal worksheet or on a Special Report.
z.	Document any other pertinent information, including any data to support any factors used to calculate the production.
***	

***

SECTION II – DETERMINED HARVESTED PRODUCTION

(1) Account for ALL HARVESTED PRODUCTION (for **ALL ENTITIES** sharing in the crop) except production appraised BEFORE harvest and shown in Section I because the quantity cannot be determined later (e.g., high moisture grain going into air-tight storage, released for other uses, etc.).

(2) Columns 49 through 52 are for structure measurement entries (Rectangular, Round, Square, **Conical Pile**, etc.). If structures are a combination of shapes, break into a series of average measurements, if possible. Enter "Odd Shape" if production is stored in an odd-shaped structure. Document measurements on a Special Report or other worksheet used for this purpose.

(3) If farm-stored production has been weighed prior to storage and acceptable weight tickets are available showing gross weights, enter "Weighed and Stored On Farm" in columns 49 through 52. Refer to the LAM for acceptable weight tickets.

(4) For production commercially stored, sold, etc., make entries in columns 49 through 52 as follows:

(a) Name and address of storage facility or buyer.
(b) "Seed," "Fed," etc.

(5) There will be no "harvested production" entries for replanting payments.

(6) If acceptable sales or weight tickets are not available, refer to the LAM.

(7) If additional lines are necessary, the data may be entered on a continuation sheet. USE SEPARATE LINES FOR:

(a) Separate storage structures.

(b) Varying names and addresses of buyers of sold production.

(c) Varying determinations of production (varying moisture, foreign material (FM), test weight, value, etc.). Average percent of FM or moisture can be entered when the elevator has calculated the average on the summary sheet, and the determined average is acceptable to the adjuster. Separate line entries are not otherwise required. Refer to the LAM for instructions.

(d) Varying shares; e.g., 50 percent and 75 percent shares on same unit.

(e) Conical piles. Do **NOT** add the cone in the top or bottom of a bin to the height of other grain in the structure. For computing the production in cones and conical piles, refer to the LAM.

(f) Varying types: e.g., a specialty type and an "all others" type barley in the same unit. If there are multiple types planted within the same unit, the AIP may complete a separate Production Worksheet for each type in the unit.

(8) There will generally be no harvested production entries in columns 47 through 66 for preliminary inspections.

(9) If there is harvested production from more than one insured practice (or type) and a separate approved APH yield has been established for each, the harvested production also must be entered on separate lines in columns 47 through 66 by type or practice. If production has been commingled, refer to the LAM.

Element/Item Number	Description
43. Date Harvest Completed: (Used to determine if there is a delayed notice or a delayed claim. Refer to the LAM.)	**PRELIMINARY:** MAKE NO ENTRY. **REPLANT AND FINAL:** a. The earlier of the date the ENTIRE acreage on the unit was (1) harvested, (2) totally destroyed, (3) replanted, (4) put to other use, (5) a combination of harvested, destroyed, or put to other use, or (6) the calendar date for the end of the insurance period. b. If at the time of final inspection (if prior to the end of the insurance period), there is any unharvested insured acreage remaining on the unit that the insured does not intend to harvest; enter "**Incomplete**." c. If at the time of final inspection (if prior to the end of the insurance period), **none** of the insured acreage on the unit has been harvested, and the insured does not intend to harvest such acreage, enter "**No Harvest**." d. If the case involves a Certification Form, enter the date from the Certification Form when the entire unit is put to another use, replanting is complete for the unit, etc. Refer to the LAM.

Form Standards - Production Worksheet (Continued)

Element/Item Number	Description
44. Damage similar to other farms in the area?	**PRELIMINARY:** MAKE NO ENTRY. **REPLANT AND FINAL:** Check "Yes" or "No." Check "Yes" if the amount and cause of damage due to insurable causes is similar to the experience of other farms in the area. If "No" is checked, explain in the Narrative.
45. Assignment of Indemnity	Check "Yes" **only** if an assignment of indemnity is in effect for the crop year; otherwise, check "No." Refer to the LAM.
46. Transfer of Right to Indemnity	Check "Yes" **only** if a transfer of right to indemnity is in effect for the unit for the crop year; otherwise, check "No." Refer to the LAM.
47a. Share	RECORD ONLY VARYING SHARES on SAME unit to three decimal places.
47b. Field ID	a. If only one practice and/or type of harvested production is listed in Section I, MAKE NO ENTRY. b. If more than one practice and/or type of harvested production is listed in Section I, and a separate approved APH yield exists, indicate for each practice/type the corresponding Field ID (from Section I, column 16).
48. Multi-Crop Code	The applicable two-digit code for first crop and second crop. REFER TO THE LAM FOR INSTRUCTIONS REGARDING ENTRY OF FIRST CROP AND SECOND CROP CODES.
49. Length or Diameter	Internal measurement in feet to tenths of structural space occupied by crop. a. Length if rectangular or square. b. Diameter if round or conical pile. Refer to the LAM to convert circumference to diameter if internal diameter measurement is not possible.
50. Width	Internal width measurement in feet to tenths of space occupied by crop in structure if rectangular or square. If round, enter "RND." If conical pile, enter "Cone."
51. Depth	Depth measurement in feet to tenths of space occupied by crop in rectangular, round, or square structure. If conical pile, enter the height of the cone. If there is production in the storage structure from other units or sources, refer to the LAM.

Form Standards - Production Worksheet (Continued)

Element/Item Number	Description
52. Deductions	Cubic feet, to tenths, of crop space displaced by chutes, vents, studs, crossties, etc. Refer to the LAM for computation instructions.
53. Net Cubic Feet	Net cubic feet of crop in the storage structure. Refer to the LAM for computation instructions.
54. Conversion Factor	Enter Conversion Factor as ".8" (only if structure measurements are entered).
55. Gross Prod.	Multiply column 53 times column 54, rounded to tenths of a bushel. The results of this calculation represent the amount of gross bushels in the bin.
56. Bu., Ton, Lbs., Cwt.	Circle "Bu." in column heading. Production in bushels, to tenths, before deductions for grain moisture and foreign material for production: a. Weighed and stored on the farm. b. Sold and/or stored in commercial storage - Obtain gross production for the UNIT from the summary and/or settlement sheets. (Individual load slips only WILL NOT suffice unless the storage facility or buyer WILL NOT provide summary and/or settlement sheets to the insured, and this is documented in the Narrative.) c. Stored in odd-shaped structures. The adjuster must compute the amount of gross production. (Refer to the LAM for cubic footage and production computations). A copy of ALL production calculations must be left in the file folder. d. For mycotoxin-infected grain, enter ALL production even if it has no market value.
57. Shell/Sugar Factor	MAKE NO ENTRY.
58a. FM %	Make entry to nearest tenth. Refer to the LAM for entry instructions. **Refer to the LAM for FGIS definitions of "FM" and "Dockage."**

Element/Item Number	Description
58b. Factor	Enter the three-place factor determined by subtracting the percent of FM from 1.000, or subtract the entry in 58a from 100 and divide by 100. **EXAMPLE:** For 4 percent, enter ".960."
59a. Moisture %	Enter moisture percent to tenths. Moisture adjustment is applied prior to applying any qualifying adjustment for quality. MAKE NO ENTRY for flax. ***
59b. Factor	If grain moisture is more than the allowable limit, enter the four-place moisture factor from the Moisture Adjustment Factor applicable table (exhibits 22-25).
60a. Test Wt.	Enter test weight (ONLY when storage structure measurements are entered) in whole pounds (or pounds to tenths IF so instructed by the AIP). Refer to the LAM for instructions on determining test weight.
60b. Factor	Combination Test Weight and Pack Factor - Enter the Factor from the appropriate table (exhibits 26-28) for the square footage of floor space in the storage structure. Refer to the LAM for instructions on calculating floor space of a structure. If the AIP instructs test weights to be entered to the nearest tenth, use the nearest ½ pound test weight value on the combination test weight and pack factor chart. For test weights not shown on the chart, multiply the actual test weight by the last available combination test weight and pack factor for the appropriate bin size and divide the result by the last available test weight shown on the chart. **EXAMPLE FOR TEST WEIGHT NOT SHOWN ON THE CHART:** Wheat with a test weight of 65.0 pounds stored in a less than 255 Sq. Ft. bin 65.0 (actual test weight) x 1.091 (last available factor) ÷ 64.0 (last available test weight) = 1.108 For a crop that has no combination test weight and pack factor, enter the result of dividing the actual test weight by the standard bushel weight, to three decimal places. Refer to the LAM for the Standard Bushel Weights. The standard test weight for buckwheat is 48 pounds for large seeded varieties and 44 pounds for small seeded varieties.

Form Standards - Production Worksheet (Continued)

Element/Item Number	Description
61. Adjusted Production	Result of multiplying columns 55 or 56 times 58b times 59b times 60b. Round to nearest tenth.
62. Prod. Not to Count	Net production NOT to count, in bushels to tenths, WHEN ACCEPTABLE RECORDS IDENTIFYING SUCH PRODUCTION ARE AVAILABLE, from harvested acreage which has been assessed an appraisal of not less than the guarantee per acre, or from other sources (e.g., other units or uninsured acreage) in the same storage structure (if the storage entries include such production).
	THIS ENTRY MUST NEVER EXCEED PRODUCTION SHOWN ON THE SAME LINE. EXPLAIN THE TOTAL BIN CONTENTS (bin grain depth, etc.) AND ANY "PRODUCTION NOT TO COUNT" IN THE NARRATIVE. Make no entry if only the depth for production to count has been entered in column "51," and the depth for production not to count has been entered in the Narrative section. Refer to example in the LAM.
63. Production Pre-QA	Result of subtracting column 62 from column 61.
64a. Value	When applicable, enter the Reduction in Value (RIV). RIV must be limited to amounts that are usual, customary, and reasonable. (Refer to the SP and the LAM for further instructions.) MAKE NO ENTRY when the discount factor is obtained from the charts in the SP. ***

Form Standards - Production Worksheet (Continued)

Element/Item Number	Description
64b. MKT Price	**Mkt Price:** If an entry is in column 64a, enter the Local Market Price for U.S. Grade No. 2 of the crop (refer to the CP). Refer to the LAM for further instructions. For buckwheat, if an entry is in column 64a enter the price for buckwheat in accordance with the SP. MAKE NO ENTRY when the discount factor is obtained from the charts in the SP. ***
65. Quality Factor	For production eligible for quality adjustment, enter the 3-digit quality adjustment factor determined by subtracting the result of column 64a divided by column 64b from 1.000, **or 1.000 minus the discount factor(s) obtained from the SP.** ***
66. Production to Count	Enter result from multiplying column 63 times column 65, in bushels rounded to tenths.
67. Total of Column 63	Total of column 63. If no entry in column 63, MAKE NO ENTRY.
For items 68 – 72. When separate line entries are made for varying share, stages, APH yields, price elections, types, etc., within the unit, and totals need to be kept separate for calculating indemnities, make no entry and follow the AIP's instructions; otherwise, make the following entries.	
68. Section II Total:	**PRELIMINARY AND REPLANT:** MAKE NO ENTRY. **FINAL:** Total of column 66, to tenths.

Form Standards - Production Worksheet (Continued)

Element/Item Number	Description
69. Section I Total	**PRELIMINARY AND REPLANT:** MAKE NO ENTRY. **FINAL:** Enter figure from Section I, column 38 total.
70. Unit Total	**PRELIMINARY AND REPLANT:** MAKE NO ENTRY**.** **FINAL:** Total of column 68 and column 69, to tenths.
71. Allocated Prod	Refer to the LAM for instructions for determining allocated production. Enter the total production, rounded to tenths, allocated to this unit that is included in Sections I or II of the Production Worksheet. Document how allocated production was determined and record supporting calculations in the Narrative or on a Special Report.
72. Total APH Prod.	Result to tenths, of subtracting the total of column 37 (item 42 "Totals") and item 71 (Allocated Prod.) from item 70 (Unit Total). If no entries in item 37 and item 71, transfer the entry in item 70. MAKE NO ENTRY when separate APH yields are maintained by type, practice, etc., within the unit.
The following required entries are not illustrated on the Production Worksheet example below.	
73. Insured's Signature and Date	Insured's (or insured's authorized representative's) signature and date. BEFORE obtaining the signature, REVIEW ALL ENTRIES on the Production Worksheet WITH THE INSURED (or insured's authorized representative), particularly explaining codes, etc., that may not be readily understood. Final indemnity inspections and final replanting payment inspections should be signed on bottom line.
74. Adjuster's Signature, Code #, and Date	Signature of adjuster, code number, and date signed **after** the insured (or insured's authorized representative) has signed. For an absentee insured, enter adjuster's code number ONLY. The signature and date will be entered AFTER the absentee has signed and returned the Production Worksheet. Final indemnity inspections and final replanting payment inspections should be signed on bottom line.
75. Page	**PRELIMINARY:** Page numbers – "1," "2," etc., at the time of inspection. **REPLANT AND FINAL:** Page numbers - (Example: Page 1 of 1, Page 1 of 2, Page 2 of 2, etc.).

Form Standards – Production Worksheet (Continued)

1. Crop/Code #	2. Unit #	3. Location Description	7. Company / Agency	8. Name of Insured
Wheat 0011	0001-0001BU	SW1-96N-3W	ANY COMPANY / ANY AGENCY	I.M. INSURED

4. Date(s) of Damage	JUN 10					9. Claim #	XXXXXXXX	11. Crop Year	YYYY
5. Cause(s) of Damage	HAIL					10. Policy #	XXXXXXX		
6. Insured Cause %	100					14. Date(s) Notice of Loss	1st MM/DD/YYYY	2nd	Final MM/DD/YYYY
12. Additional Units	0002-0001BU					15. Companion Policy(s)	NONE		
13. Est. Prod. Per Acre	40								

SECTION I – DETERMINED ACREAGE APPRAISED, PRODUCTION AND ADJUSTMENTS

A. ACTUARIAL

16. Field ID	17. Multi-Crop Code	18. Reported Acres	19. Determined Acres	20. Interest or Share	21. Risk	22. Type	23. Class	24. Sub-Class	25. Intended Use	26. Irr Practice	27. Cropping Practice	28. Organic Practice	29. Stage	30. Use of Acreage
A	NS		10.0	.667		012					002		UH	Plowed
B	NS		18.0	.500		012					005		P	WOC
C	NS		70.2	.667		012					002		H	H
D	NS		19.0	.500		012					005		H	H
39. TOTAL			117.2											

B. POTENTIAL YIELD

31. Appraised Potential	32a. / 32b. Moisture % / Factor	33. Shell %, Factor, or Value	34. Production Pre QA	35. Quality Factor	36. Production Post QA	37. Uninsured Causes	38. Total to Count
4.2			42.0		42.0		42.0
						360.0	360.0
42. TOTALS			42.0		42.0	360.0	402.0

40. Quality: TW ☒ KD ☐ Aflatoxin ☐ Vomitoxin ☐ Fumonisin ☐ Garlicky ☐ Dark Roast ☐
Sclerotinia ☐ Ergoty ☐ CoFo ☐ Other ☐ None ☐
41. Mycotoxins exceed FDA, State or other health organization maximum limits. Yes ☐

Hard Red Spring Wheat at Acme Elevator weighed 47# per bushel and had 14.01 % kernel damage. Determined acres using MPCI acreage report – would measure within 5 percent. See attached FGIS grade certificate. Test Wt. = 47# (DF = .021) + 14.01% Defects (DF = .000) = .021 + U.S. Sample Grade (DF = .300) = .321 1.000 - .321 = .679 QA Factor. Field C harvested. Field C hard red spring wheat stored on farm had test weight of 52 lbs. U.S. No. 5 Grade = (DF = .247) 1.000-.247 = .753 QAF.

SECTION II – DETERMINED HARVESTED PRODUCTION

43. Date Harvest Completed	44. Damage similar to other farms in the area?	45. Assignment of Indemnity	46. Transfer of Right to Indemnity?
MM/DD/YYYY	Yes X No	Yes No X	Yes No X

A. MEASUREMENTS

47a. Share / 47b. Field ID	48. Multi-Crop Code	49. Length or Diameter	50. Width	51. Depth	52. Deduction
.500 / D	NS	ACME ELEVATOR ANYTOWN, ANY STATE			
.667 / C	NS	14.0	RND	10.0	

B. GROSS PRODUCTION

53. Net Cubic Feet	54. Conversion Factor	55. Gross Prod.	56. (Bu) Ton Lbs. CWT
			530.1
1539.4	.8	1231.5	

C. ADJUSTMENTS TO HARVESTED PRODUCTION

57. Shell/ Sugar Factor	58a. / 58b. FM% / Factor	59a. / 59b. Moisture % / Factor	60a. / 60b. Test WT / Factor	61. Adjusted Production	62. Prod. Not to Count	63. Production Pre-QA	64a. / 64b. Value / Mkt. Price	65. Quality Factor	66. Production to Count
	1.0 / .990			524.8		524.8		.679	356.3
		16.7 / .9616	52 / .918	1087.1		1087.1		.753	818.6
					67. TOTAL	1611.9			

68. Section II Total	1174.9
69. Section I Total	402.0
70. Unit Total	1576.9
71. Allocated Prod.	
72. Total APH Prod.	1216.9

This form example does not illustrate all required entry items (e.g., signatures, dates, etc.).

Form Standards – Production Worksheet (Continued)

1. Crop/Code #	2. Unit #	3. Location Description	7. Company	ANY COMPANY
WHEAT 0011	0001-0001BU	SW1-96N-3W	Agency	ANY AGENCY

4. Date(s) of Damage	JUN 10				
5. Cause(s) of Damage	HAIL				
6. Insured Cause %	100				
12. Additional Units					
13. Est. Prod. Per Acre					

8. Name of Insured	I.M. INSURED		
9. Claim #	XXXXXXXX	11. Crop Year	YYYY
10. Policy #	XXXXXXXXXX		
14. Date(s) Notice of Loss	1st MM/DD/YYYY	2nd	Final MM/DD/YYYY
15. Companion Policy(s)	NONE		

SECTION I – DETERMINED ACREAGE APPRAISED, PRODUCTION AND ADJUSTMENTS

A. ACTUARIAL — **B. POTENTIAL YIELD**

16. Field ID	17. Multi-Crop Code	18. Reported Acres	19. Determined Acres	20. Interest or Share	21. Risk	22. Type	23. Class	24. Sub-Class	25. Intended Use	26. Irr Practice	27. Cropping Practice	28. Organic Practice	29. Stage	30. Use of Acreage	31. Appraised Potential	32a. Moisture % / 32b. Factor	33. Shell %, Factor, or Value	34. Production Pre QA	35. Quality Factor	36. Production Post QA	37. Uninsured Causes	38. Total to Count
A			30.0	1.000		012					002		R	REPLANTED	4.0			120.0		120.0		120.0
			40.0	1.000		012					002		NR	NOT REPLANTED								
		39. TOTAL	70.0														42. TOTALS	120.0		120.0		120.0

40. Quality: TW ☐ KD ☐ Aflatoxin ☐ Vomitoxin ☐ Fumonisin ☐ Garlicky ☐ Dark Roast ☐ Sclerotinia ☐ Ergoty ☐ CoFo ☐ Other ☐ None ☐

41. Mycotoxins exceed FDA, State or other health organization maximum limits. Yes ☐

NARRATIVE (If more space is needed, attach a Special Report) Example above shows allowance when 20% of production guarantee is greater than the maximum allowance. (20% x 25.0 prod guar. Bu.) = 5.0 bu./ac. (greater than 4.0 bu. maximum allowed) Appraised potential less than 90% of production guarantee. (25.0 x 90% = 22.5 bu/acre -- appraised potential = 10.0 bu/acre. Total acreage from FSA permanent field measurement. Field A wheel measured. See attached Special Report for measurements and calculations.

SECTION I – DETERMINED ACREAGE APPRAISED, PRODUCTION AND ADJUSTMENTS

A. ACTUARIAL — **B. POTENTIAL YIELD**

16. Field ID	17. Multi-Crop Code	18. Reported Acres	19. Determined Acres	20. Interest or Share	21. Risk	22. Type	23. Class	24. Sub-Class	25. Intended Use	26. Irr Practice	27. Cropping Practice	28. Organic Practice	29. Stage	30. Use of Acreage	31. Appraised Potential	32a. Moisture % / 32b. Factor	33. Shell %, Factor, or Value	34. Production Pre QA	35. Quality Factor	36. Production Post QA	37. Uninsured Causes	38. Total to Count
A			30.0	.500		012					002		R	REPLANTED	2.0			60.0		60.0		60.0
			40.0	.500		012					002		NR	NOT REPLANTED								
		39. TOTAL	70.0														42. TOTALS	60.0		60.0		60.0

40. Quality: TW ☐ KD ☐ Aflatoxin ☐ Vomitoxin ☐ Fumonisin ☐ Garlicky ☐ Dark Roast ☐ Sclerotinia ☐ Ergoty ☐ CoFo ☐ Other ☐ None ☐

41. Do any mycotoxins exceed FDA, State or other health organization maximum limits? Yes ☐ No ☐

NARRATIVE (If more space is needed, attach a Special Report) Example above show allowance when 20% of production guarantee is greater than the maximum allowance when share is considered. 25.0 bu./acre x 20% x .500 share = 2.5 bu./acre (greater than maximum allowed – 4.0 bu./acre x .500 share = 2.0 bu./acre). Appraised potential less than 90% of production guarantee. (25.0 X 90% = 22.5 bu/acre -- appraised potential = 10.0 bu./acre) Total acreage from FSA permanent field measurement. Field A wheel measured. See attached Special Report for measurements and calculations.

This form example does not illustrate all required entry items (e.g., signatures, dates, etc.).

Minimum Representative Sample Requirements

Acres in Field or Subfield	Minimum Number of Samples*
0.1 – 10.0	3
*Add one additional sample for each additional 40.0 acres (or fraction thereof) in the field or subfield.	

Exhibit 8

Drill Spacing and Square Foot Factor for Small Grains

Drill Spacing (In.)	Square Foot Factor	Drill Spacing (In.)	Square Foot Factor
3 x 3 (Broadcast)	9.0	12.0	10.0
6.0	5.0	12.5	10.4
6.5	5.4	13.0	10.8
7.0	5.8	13.5	11.3
7.5	6.3	14.0	11.7
8.0	6.7	14.5	12.1
8.5	7.1	15.0	12.5
9.0	7.5	15.5	12.9
9.5	7.9	16.0	13.3
10.0	8.3	16.5	13.8
10.5	8.8	17.0	14.2
11.0	9.2	17.5	14.6
11.5	9.6	18.0	15.0

Always measure a ten foot row length for small grains, unless seed was broadcast.

For drill spacing measurements other than those identified in exhibit 8, use the following formula: (Drill Spacing ÷ 12") x 10 ft. of row = Square Foot Factor

EXAMPLE: If the drill spacing is determined to be 5½-inches, divide 5 ½ by 12-inches = .4583 factor. Multiply this factor times 10 to determine the square foot factor. In this case .4583 x 10.0 feet = 4.58 (to the nearest tenth) = 4.6 Square Foot Factor for a 5½-inch drill spacing using a 10-foot length of row.

Exhibit 9

Drill Spacing and Square Foot Factor for Buckwheat

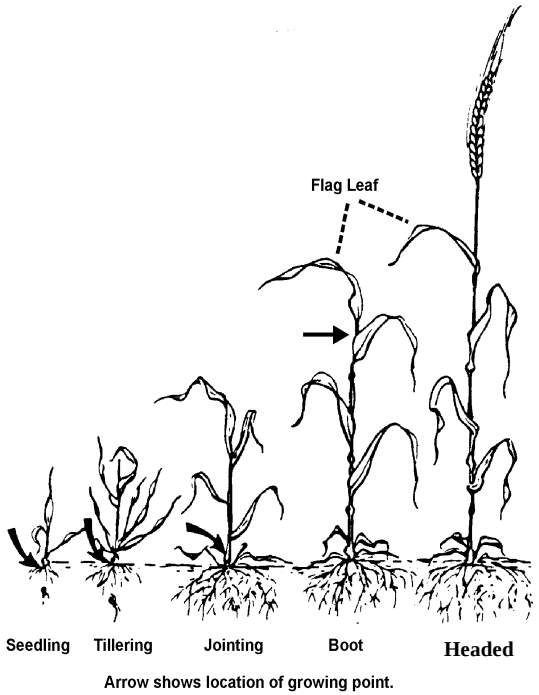
Drill Spacing (In.)	Factor	Drill Spacing (In.)	Factor
3 x 3 (Broadcast)	4.8	10.0	5.2
4.0	13.1	10.5	5.0
4.5	11.6	11.0	4.8
5.0	10.5	11.5	4.5
5.5	9.5	12.0	4.4
6.0	8.7	12.5	4.2
6.5	8.0	13.0	4.0
7.0	7.5	13.5	3.9
7.5	7.0	14.0	3.7
8.0	6.5	14.5	3.6
8.5	6.1	15.0	3.5
9.0	5.8	15.5	3.4
9.5	5.5	16.0	3.3

For drill spacing measurements other than those identified in exhibit 9, use the following formula:
43560 ÷ (Drill Spacing ÷ 12”) ÷ 10,000 = Factor.

EXAMPLE: If the drill spacing is determined to be 3 ½-inches, divide 3 ½ by 12 inches = .2917 factor. Divide 43,560 by .2917 and divide by 10,000 for a factor of 14.9.

Growth Stages of Barley

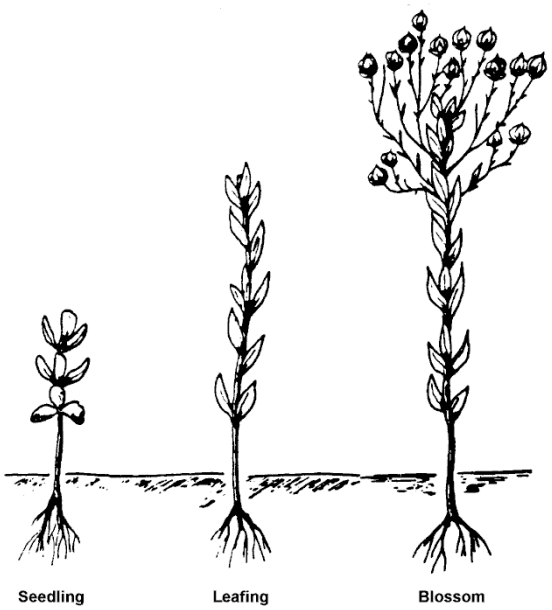
STAGE	DEFINITION	TIME INTERVAL TO NEXT STAGE
Seedling	The early growth stage of a plant.	10 days
Tillering	When the seedling begins to send erect shoots from the buds in the crown.	15 days
Jointing	When the tiller elongates and establishes individual nodes.	15 days
Boot	The head has begun to expand the leaf sheath and less than 50 percent of the heads have emerged from the boot. Barley will bloom during the boot stage.	7 days
Heading	At least 50 percent of the crop has headed.	
Milk	When the kernels in the center portion of the head are crushed and a milky liquid substance emerges.	7 days
Soft Dough	When the kernels in the center portion of the head are crushed and a white, semi-solid substance emerges.	7 days
Hard Dough	When kernels in the center portion of the head show evidence of a solid granular substance when crushed but with too much moisture content to harvest.	7 days
Combine Ripe	Barley has reached a hard flinty form and will crack rather than be mashed.	



Growth Stages of Flax

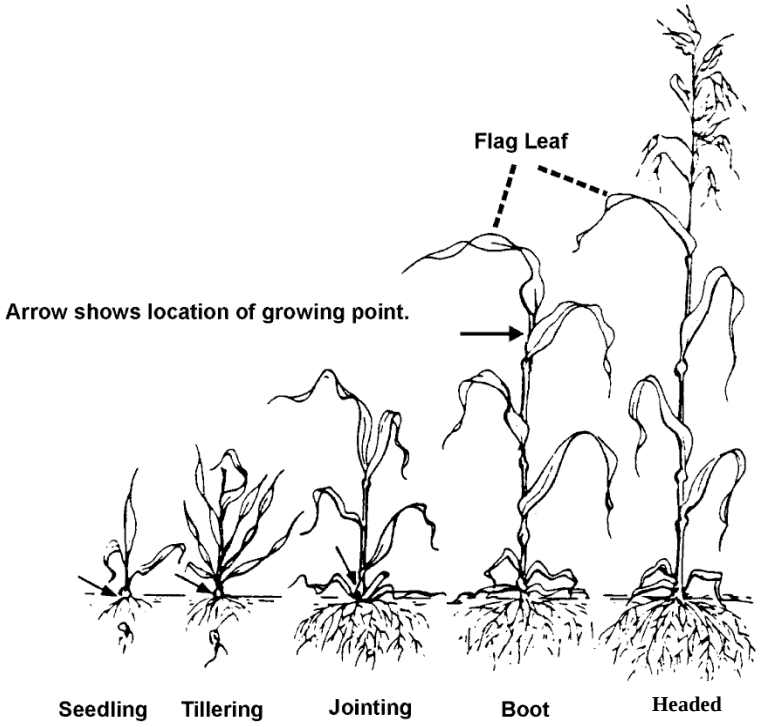
STAGE	DEFINITION	TIME INTERVAL TO NEXT STAGE
Seedling	From emergence to sixth leaf.	14 days
Leafing	From sixth leaf to first blossom.	30 days
Blossom	From first blossom to green boll.	12 days
Green Boll	Green bolls forming through development of white seeds.	18 days
Boll Ripening	When the bolls begin to turn color until kernels reach maturity.	22 days
Mature	Seed is mature.	

Refer to exhibit 30 for a picture illustration of a flax boll and flower.



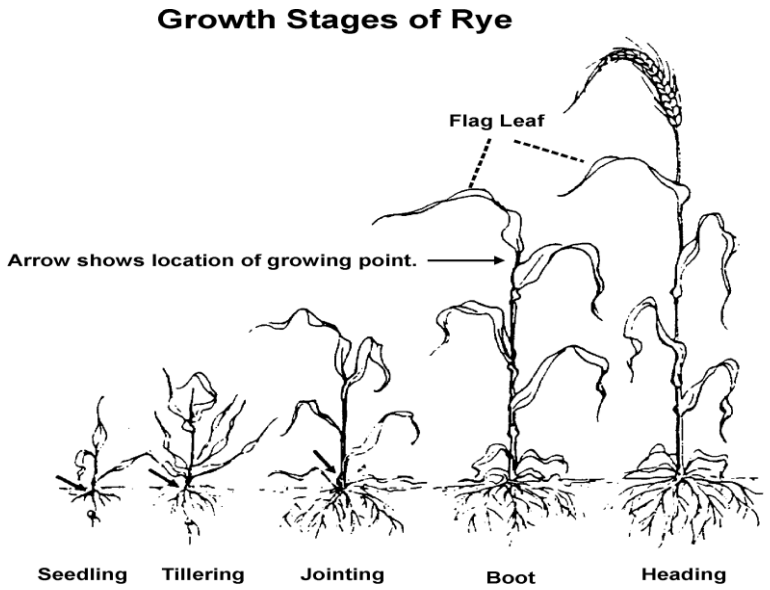
Growth Stages of Oats

STAGE	DEFINITION	TIME INTERVAL TO NEXT STAGE
Seedling	The early growth stage of a plant.	5 days
Tillering	When the Seedling begins to send erect shoots from the buds in the crown.	32 days
Jointing	When the tiller elongates and establishes individual nodes.	11 days
Boot	The head has begun to expand the leaf sheath and less than 50 percent of the heads have emerged from the boot.	8 days
Heading	At least 50 percent of the crop has headed.	
Bloom	At least 50 percent of all emerged heads are showing sign of bloom (anthers visible outside of the glumes).	4 days
Milk	When the kernels in the center portion of the head are crushed and a milky liquid substance emerges.	8 days
Dough	When the kernels in the center portion of the head show evidence of a granular substance when crushed but with too much moisture to harvest	6 days
Combine Ripe	Oats have reached a hard flinty form and will crack rather than be mashed.	



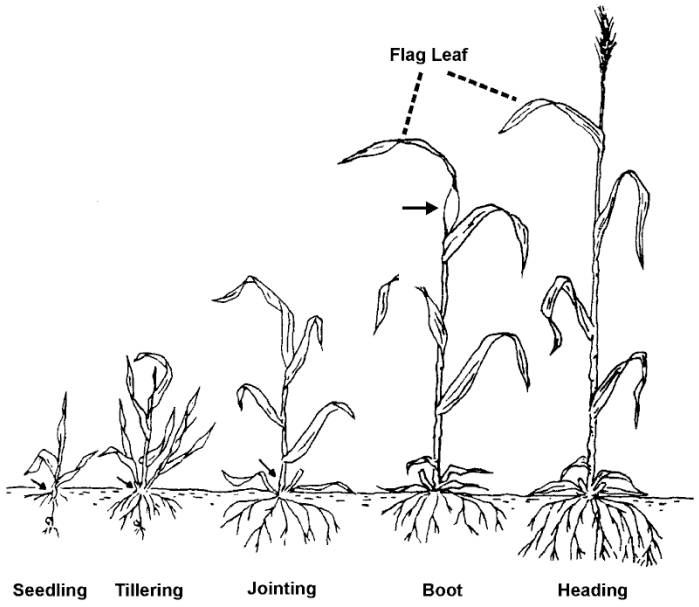
Growth Stages of Rye

STAGE	DEFINITION	TIME INTERVAL TO NEXT STAGE
Seedling	The early growth stage of a plant.	10 days
Tillering	When the seedling begins to send erect shoots from the buds in the crown.	15 days
Jointing	When the tiller elongates and establishes individual nodes.	15 days
Boot	The head has begun to expand the leaf sheath and less than 50 percent of the heads have emerged from the boot.	2 days
Heading	At least 50 percent of the crop has headed.	
Milk	When the kernels in the center portion of the head are crushed and a milky liquid substance emerges.	10 days
Soft Dough	When the kernels in the center portion of the head are crushed and a white, semi-solid substance emerges.	11 days
Hard Dough	When kernels in the center portion of the head show evidence of a solid granular substance when crushed but with too much moisture content to harvest.	10 days
Combine Ripe	Rye has reached a hard flinty form and will crack rather than be mashed.	



Growth Stages of Wheat

STAGE	DEFINITION	TIME INTERVAL TO NEXT STAGE
Seedling	The early growth stage of a plant.	16 days
Tillering	When the seedling begins to send erect shoots from the buds in the crown.	17 days
Jointing	When the tiller elongates and establishes individual nodes.	12 days
Boot	The head has begun to expand the leaf sheath and less than 50 percent of the heads have emerged from the boot.	2 days
Heading	At least 50 percent of the crop has headed.	
Bloom	At least 50 percent of all emerged heads are showing sign of bloom (anthers visible outside of the glumes).	9 days
Milk	When the kernels in the center portion of the head are crushed and a milky liquid substance emerges.	10 days
Soft Dough	When the kernels in the center portion of the head are crushed and a white, semi-solid substance emerges.	11 days
Hard Dough	When kernels in the center portion of the head show evidence of a solid granular substance when crushed but with too much moisture content to harvest.	10 days
Combine Ripe	Wheat has reached a hard flinty form and will crack rather than be mashed.	



Arrow shows location of growing point.

Growth Stages of Buckwheat

STAGE OF GROWTH	DESCRIPTION	TIME INTERVAL TO NEXT STAGE
Cotyledonary nodes are established 10 days after planting.		7
N-1		7
N-2	From emergence to flowering.	7
N-3		7
N-4	Flowering begins and lasts until harvest or plant death.	6
N-5		6
N-6		6
N-7		6
N-8	Seed set occurs.	6
N-9 – N-12 and up	Seed development.	6
Harvest Ready	Immediately upon frost (late or fall frost) or when 70 percent of the seeds have turned black or brown.	

Generally, Buckwheat will emerge and establish cotyledonary nodes within 10 days of planting. The first four nodes (N-1 thru N-4) take approximately 7 days each to be established. Thereafter, nodes attach approximately every 6 days. For example: The N-6 stage will occur about 40 days after emergence (Nodes N-1 to N-4 at 7 days each or 28 days and 6 days each for N-5 and N-6 or 12 days).

BUCKWHEAT TYPES AND STAGES OF GROWTH

(1) These instructions provide plant-type and growth stage information for use when appraising potential buckwheat production during various stages of growth. A picture of buckwheat is shown in exhibit 30. Examples of stage development are shown in exhibit 32.

(2) Buckwheat types. Buckwheat varieties fall into two general types, large-seeded and small-seeded, with several varieties for each type. However, due to the demands of the export market the predominate type planted is large-seeded.

Growth Stages of Buckwheat (Continued)

(3) Buckwheat is an indeterminate plant that will produce flowers and seeds throughout the growing season until harvested or killed by frost. Two types of nodes can be found on a buckwheat plant, primary nodes (located on the main stem) and ancillary nodes (located on branches). Leaves, flowers, and seeds will set from any of these nodes; however, varieties planted today at recommended plant densities generally produce most of the harvestable seed from the primary nodes located near the top of the plant. Reduced stands or plants incurring node loss from being cutoff or broken over will tend to compensate by producing seed from the ancillary nodes. Flowering normally begins at the 4^{th} or 5^{th} node and progresses upward or outward on an ancillary branch. Once flowering takes place, seed will set upon successful pollination within 10 days and be fully mature within an additional 14 days. Successful pollination will occur in approximately 15% of the flowers set and depending upon weather conditions only a limited percentage of those seeds that have actually set will become harvestable seed. Once the seed is brown or black it is considered mature. When 70% of the seeds are brown or black the crop is considered harvest ready.

(4) Growth Stage Determination:

(a) The growth stage determination is based on at least 50 percent of the plants in a field or subfield having reached the stage described. The main stem or the primary nodes are used for stage determination ignoring the nodes located on any ancillary branches. Stage of growth is determined by the examination of 10 consecutive plants with a complete main stem. The number of nodes determined divided by 10 will provide the growth stage to be used and designated as N-#. Fields should be split into sub-fields to reflect distinctly different stages from different sample areas throughout the field.

(b) For hail damage, the stage of growth at the time of damage can be determined by inspecting the plant to determine the plant material exposed at the time of the storm. In the absence of hail, and as verification, the stage can be determined by counting back from the date of adjustment by the time intervals between stages. In the event of a storm, which results in all plants having nodes removed, stage can be determined by counting forward from the plant date using the time interval chart.

(c) Determination of all stages except the harvest ready stage requires node identification. In turn, the determination of stage dictates the loss adjustment procedures used for adjusting Buckwheat. Stages are determined by counting the nodes above the cotyledonary node.

(d) A node is the part of the stem from which leaves and ancillary branches develop. In the absence of leaves or branches, the node is marked by a small knob, which remains circumventing the stem.

Growth Stages of Buckwheat (Continued)

(e) The cotyledonary node has 2 cotyledons (seed leaves) located directly opposite each other at the bottom of the main stem. The cotyledons are pulled above the soil surface as seedling develops.

(f) As additional nodes develop above the cotyledon along the main stem, a heart shaped leaf is produced from each node set. Leaves will alternate from one side of the plant to the other as nodes are established along the main stem. From these same nodes, ancillary branches may develop, which also produce nodes and leaves.

(g) To stage the plant, count all nodes above the cotyledonary node which have a fully unfurled leaf. In some cases, two nodes will appear as one node with leaves extending from both sides of the plant. In this situation two nodes should be counted. Examples of stage development are shown in exhibit 32.

Tiller Factors (Barley, Oats, Rye, and Wheat)

TYPE OF SMALL GRAIN	TILLER FACTOR
Spring Wheat/Durum	4
Spring Wheat/Durum (North Dakota Only)	3
Hard Red Winter Wheat (North Dakota Only)	3
Eastern Soft Winter Wheat (Red or White)	5
Club Winter Wheat	6
Pacific Northwest Soft White Winter Wheat for Idaho, Oregon, and Washington	6
Pacific Northwest Soft White Spring Wheat Irrigated for Idaho, Oregon, and Washington	6
Pacific Northwest Soft White Spring Wheat Non-Irrigated for Idaho, Oregon, and Washington	4
Hard Winter Wheat (Red or White)	5
Spring Barley (North Dakota Only)	3
All Barley including Eastern Winter Barley	5
Oats	1.5
Rye	2

Tiller to Bushel Yield Factor (Barley, Oats, Rye, and Wheat)

TYPE OF SMALL GRAIN	YIELD FACTOR
Spring Wheat/Durum	.73
Eastern Soft Winter Wheat (Red or White) For AR, IL, MO, KY, TN, IN, NJ, MI, OH, PA, MD, AND NY	.50
Soft Winter Wheat (Red or White) for States not listed above	.73
Club Winter Wheat	.73
Pacific Northwest Soft White Winter Wheat for Idaho, Oregon, and Washington	.73
Hard Winter Wheat (Red or White)	.73
Eastern Winter Barley for AR, IL, MO, KY, TN, IN, NJ, MI, OH, PA, MD, AND NY	.38
Other Barley	1.00
Oats	3.00
Rye	.73

Kernels to Bushel Yield Factors

TYPE OF SMALL GRAIN	KERNELS PER SQUARE FOOT
All Spring and Winter Wheat	22
All Shriveled Wheat	25
All Plump Barley	16
All Thin Barley	18
All Oats That Are Not Shriveled	12
All Shriveled Oats	14
All Rye	22
Do not apply the kernel to bushel yield factor for shriveled wheat or oats, or thin barley unless you have reasonable justification to assume that unfilled kernels will be shriveled after reaching maturity. Document in the Narrative section of the production worksheet.	
For harvested acreage, the number of kernels per square foot on the ground may indicate the need for an appraisal for uninsured causes.	

Number of Kernels per Head

TYPE OF SMALL GRAIN	PRACTICE	KERNELS
Pacific Northwest Soft White Winter Wheat for Idaho, Oregon, and Washington	I	45
Pacific Northwest Soft White Winter Wheat for Idaho, Oregon, and Washington	NI	35
Pacific Northwest Soft White Spring Wheat for Idaho, Oregon, and Washington	I	40
Pacific Northwest Soft White Spring Wheat for Idaho, Oregon, and Washington	NI	30
California Winter and Spring Wheat	I	49
California Winter and Spring Wheat	NI	44
California Winter Durum Wheat		50
Club Wheat	I	50
Club Wheat	NI	40
All Other Wheat		20
Eastern Winter Barley		30
All Other Barley (two-rowed varieties)		24
All Other Barley (six-rowed varieties)		42
Oats		35
Rye		20

Buckwheat Stand Reduction Chart

	PERCENTAGE OF PLANTS DESTROYED																			
STAGE OF GROWTH	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**	**75**	**80**	**85**	**90**	**95**	**100**
N-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	14.5	26.5	40.0	55.0	71.5	100.0
N-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.0	8.0	18.5	30.0	43.5	58.0	74.0	100.0
N-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	6.0	12.5	23.0	34.0	46.5	60.5	76.0	100.0
N-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	9.0	17.0	27.0	37.5	50.0	63.5	78.5	100.0
N-5	0.0	1.0	2.0	3.0	3.5	4.5	6.0	7.0	8.0	9.5	10.5	13.5	20.0	27.5	36.5	46.0	57.0	69.0	82.0	100.0
N-6	0.5	2.0	3.5	5.5	7.5	9.5	11.5	14.0	16.0	18.5	21.5	25.0	31.5	38.0	46.0	54.5	64.0	74.0	85.0	100.0
N-7	0.5	3.0	5.5	8.5	11.0	14.0	17.5	20.5	24.0	28.0	32.0	36.0	42.5	48.5	55.5	63.0	71.0	79.5	88.5	100.0
N-8	0.5	4.0	7.0	11.0	14.5	18.5	23.0	27.5	32.0	37.0	42.5	47.5	53.5	59.0	65.0	71.5	78.0	84.5	91.5	100.0
	PERCENT OF LOSS FROM STAND REDUCTION																			

Buckwheat Plant Damage Chart

	PERCENTAGE OF NODES CUTOFF/BREAKOVER																			
STAGE OF GROWTH	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**	**75**	**80**	**85**	**90**	**95**	**100**
N-4	0.0	0.0	0.0	1.0	2.0	3.0	5.0	7.0	9.0	11.0	13.5	16.5	20.0	24.5	29.5	35.0	41.0	47.5	55.0	62.5
N-5	0.0	0.0	0.5	2.0	3.5	5.0	7.0	9.0	11.5	14.0	17.0	20.5	24.5	29.0	34.0	40.0	46.0	52.5	60.0	67.0
N-6	0.0	0.0	1.0	2.5	4.5	6.5	9.0	11.0	14.0	17.0	20.5	24.5	28.5	33.5	39.0	44.5	51.0	57.5	64.5	72.0
N-7	0.0	0.0	1.5	3.5	6.0	8.5	10.5	13.0	16.0	19.5	23.5	28.0	33.0	38.0	43.5	49.5	55.5	62.0	69.5	76.5
N-8	0.0	0.0	2.0	4.0	7.0	10.0	12.5	15.0	18.5	22.5	27.0	32.0	37.0	42.5	48.0	54.0	60.5	67.0	74.0	81.0
N-9	2.0	3.5	6.0	8.5	11.5	15.0	18.5	22.0	26.0	30.0	35.0	40.0	45.5	51.0	57.0	63.0	69.5	76.0	83.0	90.5
N-10	3.5	6.5	9.5	12.5	16.0	20.0	24.0	28.5	33.0	37.5	42.5	48.0	53.5	59.5	65.5	71.5	78.0	85.0	92.0	99.5
N-11	5.0	7.5	10.5	14.5	20.0	25.5	31.0	36.5	42.0	47.5	53.0	58.5	64.0	69.5	75.0	80.5	85.5	91.5	96.0	100.0
N-12 and up	6.0	8.0	11.0	16.5	24.0	31.0	38.0	44.5	51.0	57.0	63.0	69.0	74.0	79.5	84.0	89.0	93.0	97.5	100.0	100.0
	PERCENT OF LOSS FROM PLANT DAMAGE																			

Wheat Moisture Adjustment Factors

Whole Percent Moisture	TENTHS OF PERCENT MOISTURE									
	0	**.1**	**.2**	**.3**	**.4**	**.5**	**.6**	**.7**	**.8**	**.9**
13						1.000	.9988	.9976	.9964	.9952
14	.9940	.9928	.9916	.9904	.9892	.9880	.9868	.9856	.9844	.9832
15	.9820	.9808	.9796	.9784	.9772	.9760	.9748	.9736	.9724	.9712
16	.9700	.9688	.9676	.9664	.9652	.9640	.9628	.9616	.9604	.9592
17	.9580	.9568	.9556	.9544	.9532	.9520	.9508	.9496	.9484	.9472
18	.9460	.9448	.9436	.9424	.9412	.9400	.9388	.9376	.9364	.9352
19	.9340	.9328	.9316	.9304	.9292	.9280	.9268	.9256	.9244	.9232
20	.9220	.9208	.9196	.9184	.9172	.9160	.9148	.9136	.9124	.9112
21	.9100	.9088	.9076	.9064	.9052	.9040	.9028	.9016	.9004	.8992
22	.8980	.8968	.8956	.8944	.8932	.8920	.8908	.8896	.8884	.8872
23	.8860	.8848	.8836	.8824	.8812	.8800	.8788	.8776	.8764	.8752
24	.8740	.8728	.8716	.8704	.8692	.8680	.8668	.8656	.8644	.8632
25	.8620	.8608	.8596	.8584	.8572	.8560	.8548	.8536	.8524	.8512
26	.8500	.8488	.8476	.8464	.8452	.8440	.8428	.8416	.8404	.8392
27	.8380	.8368	.8356	.8344	.8332	.8320	.8308	.8296	.8284	.8272
28	.8260	.8248	.8236	.8224	.8212	.8200	.8188	.8176	.8164	.8152
29	.8140	.8128	.8116	.8104	.8092	.8080	.8068	.8056	.8044	.8032
30	.8020	.8008	.7996	.7984	.7972	.7960	.7948	.7936	.7924	.7912
31	.7900	.7888	.7876	.7864	.7852	.7840	.7828	.7816	.7804	.7792
32	.7780	.7768	.7756	.7744	.7732	.7720	.7708	.7696	.7684	.7672
33	.7660	.7648	.7636	.7624	.7612	.7600	.7588	.7576	.7564	.7552
34	.7540	.7528	.7516	.7504	.7492	.7480	.7468	.7456	.7444	.7432
35	.7420	.7408	.7396	.7384	.7372	.7360	.7348	.7336	.7324	.7312
36	.7300	.7288	.7276	.7264	.7252	.7240	.7228	.7216	.7204	.7192
37	.7180	.7168	.7156	.7144	.7132	.7120	.7108	.7096	.7084	.7072
38	.7060	.7048	.7036	.7024	.7012	.7000	.6988	.6976	.6964	.6952
39	.6940	.6928	.6916	.6904	.6892	.6880	.6868	.6856	.6844	.6832
40	.6820	.6808	.6796	.6784	.6772	.6760	.6748	.6736	.6724	.6712

Barley Moisture Adjustment Factors

Whole Percent Moisture	TENTHS OF PERCENT MOISTURE									
	0	**.1**	**.2**	**.3**	**.4**	**.5**	**.6**	**.7**	**.8**	**.9**
14						1.000	.9988	.9976	.9964	.9952
15	.9940	.9928	.9916	.9904	.9892	.9880	.9868	.9856	.9844	.9832
16	.9820	.9808	.9796	.9784	.9772	.9760	.9748	.9736	.9724	.9712
17	.9700	.9688	.9676	.9664	.9652	.9640	.9628	.9616	.9604	.9592
18	.9580	.9568	.9556	.9544	.9532	.9520	.9508	.9496	.9484	.9472
19	.9460	.9448	.9436	.9424	.9412	.9400	.9388	.9376	.9364	.9352
20	.9340	.9328	.9316	.9304	.9292	.9280	.9268	.9256	.9244	.9232
21	.9220	.9208	.9196	.9184	.9172	.9160	.9148	.9136	.9124	.9112
22	.9100	.9088	.9076	.9064	.9052	.9040	.9028	.9016	.9004	.8992
23	.8980	.8968	.8956	.8944	.8932	.8920	.8908	.8896	.8884	.8872
24	.8860	.8848	.8836	.8824	.8812	.8800	.8788	.8776	.8764	.8752
25	.8740	.8728	.8716	.8704	.8692	.8680	.8668	.8656	.8644	.8632
26	.8620	.8608	.8596	.8584	.8572	.8560	.8548	.8536	.8524	.8512
27	.8500	.8488	.8476	.8464	.8452	.8440	.8428	.8416	.8404	.8392
28	.8380	.8368	.8356	.8344	.8332	.8320	.8308	.8296	.8284	.8272
29	.8260	.8248	.8236	.8224	.8212	.8200	.8188	.8176	.8164	.8152
30	.8140	.8128	.8116	.8104	.8092	.8080	.8068	.8056	.8044	.8032
31	.8020	.8008	.7996	.7984	.7972	.7960	.7948	.7936	.7924	.7912
32	.7900	.7888	.7876	.7864	.7852	.7840	.7828	.7816	.7804	.7792
33	.7780	.7768	.7756	.7744	.7732	.7720	.7708	.7696	.7684	.7672
34	.7660	.7648	.7636	.7624	.7612	.7600	.7588	.7576	.7564	.7552
35	.7540	.7528	.7516	.7504	.7492	.7480	.7468	.7456	.7444	.7432
36	.7420	.7408	.7396	.7384	.7372	.7360	.7348	.7336	.7324	.7312
37	.7300	.7288	.7276	.7264	.7252	.7240	.7228	.7216	.7204	.7192
38	.7180	.7168	.7156	.7144	.7132	.7120	.7108	.7096	.7084	.7072
39	.7060	.7048	.7036	.7024	.7012	.7000	.6988	.6976	.6964	.6952
40	.6940	.6928	.6916	.6904	.6892	.6880	.6868	.6856	.6844	.6832

Oats Moisture Adjustment Factors

Whole Percent Moisture	TENTHS OF PERCENT MOISTURE									
	0	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**
14	1.000	.9988	.9976	.9964	.9952	.9940	.9928	.9916	.9904	.9892
15	.9880	.9868	.9856	.9844	.9832	.9820	.9808	.9796	.9784	.9772
16	.9760	.9748	.9736	.9724	.9712	.9700	.9688	.9676	.9664	.9652
17	.9640	.9628	.9616	.9604	.9592	.9580	.9568	.9556	.9544	.9532
18	.9520	.9508	.9496	.9484	.9472	.9460	.9448	.9436	.9424	.9412
19	.9400	.9388	.9376	.9364	.9352	.9340	.9328	.9316	.9304	.9292
20	.9280	.9268	.9256	.9244	.9232	.9220	.9208	.9196	.9184	.9172
21	.9160	.9148	.9136	.9124	.9112	.9100	.9088	.9076	.9064	.9052
22	.9040	.9028	.9016	.9004	.8992	.8980	.8968	.8956	.8944	.8932
23	.8920	.8908	.8896	.8884	.8872	.8860	8848	.8836	.8824	.8812
24	.8800	.8788	.8776	.8764	.8752	.8740	.8728	.8716	.8704	.8692
25	.8680	.8668	.8656	.8644	.8632	.8620	.8608	.8596	.8584	.8572
26	.8560	.8548	.8536	.8524	.8512	.8500	.8488	.8476	.8464	.8452
27	.8440	.8428	.8416	.8404	.8392	.8380	.8368	.8356	.8344	.8332
28	.8320	.8308	.8296	.8284	.8272	.8260	.8248	.8236	.8224	.8212
29	.8200	.8188	.8176	.8164	.8152	.8140	.8128	.8116	.8104	.8092
30	.8080	.8068	.8056	.8044	.8032	.8020	.8008	.7996	.7984	.7972
31	.7960	.7948	.7936	.7924	.7912	.7900	.7888	.7876	.7864	.7852
32	.7840	.7828	.7816	.7804	.7792	.7780	.7768	.7756	.7744	.7732
33	.7720	.7708	.7696	.7684	.7672	.7660	.7648	.7636	.7624	.7612
34	.7600	.7588	.7576	.7564	.7552	.7540	.7528	.7516	.7504	.7492
35	.7480	.7468	.7456	.7444	.7432	.7420	.7408	.7396	.7384	.7372
36	.7360	.7348	.7336	.7324	.7312	.7300	.7288	.7276	.7264	.7252
37	.7240	.7228	.7216	.7204	.7192	.7180	.7168	.7156	.7144	.7132
38	.7120	.7108	.7096	.7084	.7072	.7060	.7048	.7036	.7024	.7012
39	.7000	.6988	.6976	.6964	.6952	6940	.6928	.6916	.6904	.6892
40	.6880	.6868	.6856	.6844	.6832	.6820	.6808	.6796	.6784	.6772

Rye and Buckwheat Moisture Adjustment Factors

Whole Percent Moisture	TENTHS OF PERCENT MOISTURE									
	0	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**
16	1.000	.9988	.9976	.9964	.9952	.9940	.9928	.9916	.9904	.9892
17	.9880	.9868	.9856	.9844	.9832	.9820	.9808	.9796	.9784	.9772
18	.9760	.9748	.9736	.9724	.9712	.9700	.9688	.9676	.9664	.9652
19	.9640	.9628	.9616	.9604	.9592	.9580	.9568	.9556	.9544	.9532
20	.9520	.9508	.9496	.9484	.9472	.9460	.9448	.9436	.9424	.9412
21	.9400	.9388	.9376	.9364	.9352	.9340	.9328	.9316	.9304	.9292
22	.9280	.9268	.9256	.9244	.9232	.9220	.9208	.9196	.9184	.9172
23	.9160	.9148	.9136	.9124	.9112	.9100	.9088	.9076	.9064	.9052
24	.9040	.9028	.9016	.9004	.8992	.8980	.8968	.8956	.8944	.8932
25	.8920	.8908	.8896	.8884	.8872	.8860	.8848	.8836	.8824	.8812
26	.8800	.8788	.8776	.8764	.8752	.8740	.8728	.8716	.8704	.8692
27	.8680	.8668	.8656	.8644	.8632	.8620	.8608	.8596	.8584	.8572
28	.8560	.8548	.8536	.8524	.8512	.8500	.8488	.8476	.8464	.8452
29	.8440	.8428	.8416	.8404	.8392	.8380	.8368	.8356	.8344	.8332
30	.8320	.8308	.8296	.8284	.8272	.8260	.8248	.8236	.8224	.8212
31	.8200	.8188	.8176	.8164	.8152	.8140	.8128	.8116	.8104	.8092
32	.8080	.8068	.8056	.8044	.8032	.8020	.8008	.7996	.7984	.7972
33	.7960	.7948	.7936	.7924	.7912	.7900	.7888	.7876	.7864	.7852
34	.7840	.7828	.7816	.7804	.7792	.7780	.7768	.7756	.7744	.7732
35	.7720	.7708	.7696	.7684	.7672	.7660	.7648	.7636	.7624	.7612
36	.7600	.7588	.7576	.7564	.7552	.7540	.7528	.7516	.7504	.7492
37	.7480	.7468	.7456	.7444	.7432	.7420	.7408	.7396	.7384	.7372
38	.7360	.7348	.7336	.7324	.7312	.7300	.7288	.7276	.7264	.7252
39	.7240	.7228	.7216	.7204	.7192	.7180	.7168	.7156	.7144	.7132
40	.7120	.7108	.7096	.7084	.7072	.7060	.7048	.7036	.7024	.7012

Wheat – Combined Test Weight and Pack Factors

Test Weight	Less Than 255 Sq. Ft.	255 Sq. Ft. to 461 Sq. Ft.	462 Sq. Ft. to 767 Sq. Ft.	768 Sq. Ft. to 1384 Sq. Ft.	1385 Sq. Ft. to 2289 Sq. Ft.	2290 or Over Sq. Ft.
35.0	0.648	0.656	0.665	0.674	0.674	0.674
35.5	0.656	0.665	0.674	0.682	0.682	0.682
36.0	0.664	0.673	0.682	0.691	0.691	0.691
36.5	0.673	0.682	0.691	0.700	0.700	0.700
37.0	0.681	0.690	0.699	0.709	0.709	0.709
37.5	0.689	0.698	0.708	0.717	0.717	0.717
38.0	0.697	0.707	0.716	0.726	0.726	0.726
38.5	0.706	0.715	0.725	0.734	0.734	0.734
39.0	0.714	0.723	0.733	0.743	0.743	0.743
39.5	0.722	0.732	0.742	0.751	0.751	0.751
40.0	0.730	0.740	0.750	0.773	0.790	0.812
40.5	0.738	0.748	0.758	0.782	0.799	0.821
41.0	0.746	0.756	0.767	0.791	0.808	0.830
41.5	0.754	0.765	0.775	0.800	0.817	0.839
42.0	0.762	0.773	0.783	0.809	0.826	0.848
42.5	0.770	0.781	0.792	0.818	0.835	0.857
43.0	0.778	0.789	0.800	0.826	0.843	0.865
43.5	0.786	0.797	0.808	0.834	0.851	0.873
44.0	0.794	0.805	0.816	0.842	0.859	0.881
44.5	0.802	0.813	0.824	0.850	0.867	0.889
45.0	0.810	0.821	0.833	0.858	0.875	0.897
45.5	0.818	0.829	0.841	0.866	0.883	0.905
46.0	0.826	0.837	0.849	0.874	0.891	0.913
46.5	0.834	0.845	0.857	0.882	0.899	0.921
47.0	0.841	0.853	0.865	0.890	0.907	0.929
47.5	0.849	0.861	0.873	0.898	0.915	0.937
48.0	0.857	0.869	0.881	0.906	0.923	0.945
48.5	0.865	0.877	0.889	0.914	0.931	0.953
49.0	0.872	0.884	0.897	0.922	0.939	0.961
49.5	0.880	0.892	0.905	0.930	0.947	0.969
50.0	0.888	0.900	0.913	0.938	0.955	0.977
50.5	0.895	0.908	0.920	0.947	0.963	0.985
51.0	0.903	0.915	0.928	0.954	0.971	0.994
51.5	0.910	0.923	0.936	0.963	0.979	1.002
52.0	0.918	0.931	0.944	0.970	0.987	1.010
52.5	0.925	0.938	0.952	0.978	0.995	1.018
53.0	0.933	0.946	0.959	0.986	1.003	1.026
53.5	0.940	0.954	0.967	0.994	1.011	1.034
54.0	0.948	0.961	0.975	1.002	1.020	1.043
54.5	0.955	0.969	0.982	1.010	1.028	1.051
55.0	0.963	0.976	0.990	1.018	1.036	1.060
55.5	0.970	0.984	0.998	1.026	1.044	1.068
56.0	0.977	0.991	1.005	1.034	1.052	1.077
56.5	0.985	0.999	1.013	1.042	1.060	1.085
57.0	0.992	1.006	1.020	1.050	1.068	1.093
57.5	0.999	1.013	1.028	1.057	1.075	1.100
58.0	1.006	1.021	1.035	1.065	1.083	1.108
58.5	1.014	1.028	1.043	1.073	1.092	1.117
59.0	1.021	1.035	1.050	1.081	1.100	1.126

Wheat – Combined Test Weight and Pack Factors (Continued)

Test Weight	Less Than 255 Sq. Ft.	255 Sq. Ft. to 461 Sq. Ft.	462 Sq. Ft. to 767 Sq. Ft.	768 Sq. Ft. to 1384 Sq. Ft.	1385 Sq. Ft. to 2289 Sq. Ft.	2290 or Over Sq. Ft.
59.5	1.028	1.043	1.058	1.088	1.107	1.132
60.0	1.035	1.050	1.065	1.096	1.115	1.141
60.5	1.042	1.057	1.072	1.104	1.123	1.150
61.0	1.049	1.064	1.080	1.111	1.130	1.157
61.5	1.056	1.072	1.087	1.119	1.138	1.165
62.0	1.063	1.079	1.094	1.126	1.145	1.172
62.5	1.070	1.086	1.101	1.134	1.153	1.180
63.0	1.077	1.093	1.108	1.141	1.162	1.189
63.5	1.084	1.100	1.115	1.148	1.169	1.196
64.0	1.091	1.107	1.122	1.156	1.177	1.205

Barley – Combined Test Weight and Pack Factors

Test Weight	Less Than 255 Sq. Ft.	255 Sq. Ft. to 461 Sq. Ft.	462 Sq. Ft. to 767 Sq. Ft.	768 Sq. Ft. to 1384 Sq. Ft.	1385 Sq. Ft. to 2289 Sq. Ft.	2290 or Over Sq. Ft.
25.0	0.594	0.615	0.625	0.646	0.646	0.646
25.5	0.604	0.626	0.636	0.657	0.657	0.657
26.0	0.615	0.636	0.647	0.669	0.669	0.669
26.5	0.625	0.647	0.658	0.680	0.680	0.680
27.0	0.636	0.658	0.669	0.692	0.692	0.692
27.5	0.646	0.669	0.680	0.703	0.703	0.703
28.0	0.656	0.680	0.691	0.715	0.715	0.715
28.5	0.666	0.690	0.702	0.726	0.726	0.726
29.0	0.677	0.701	0.713	0.737	0.737	0.737
29.5	0.687	0.711	0.724	0.748	0.748	0.748
30.0	0.697	0.722	0.734	0.797	0.825	0.842
30.5	0.707	0.732	0.745	0.807	0.835	0.853
31.0	0.717	0.743	0.756	0.817	0.845	0.864
31.5	0.727	0.753	0.766	0.827	0.855	0.875
32.0	0.737	0.763	0.777	0.837	0.865	0.886
32.5	0.746	0.774	0.787	0.847	0.875	0.897
33.0	0.756	0.784	0.798	0.857	0.885	0.908
33.5	0.766	0.794	0.804	0.867	0.895	0.919
34.0	0.776	0.804	0.818	0.877	0.905	0.930
34.5	0.785	0.814	0.828	0.887	0.915	0.941
35.0	0.795	0.824	0.839	0.897	0.925	0.952
35.5	0.804	0.834	0.849	0.907	0.935	0.963
36.0	0.814	0.844	0.859	0.917	0.945	0.974
36.5	0.823	0.854	0.869	0.927	0.955	0.985
37.0	0.833	0.863	0.879	0.937	0.965	0.996
37.5	0.842	0.873	0.889	0.947	0.975	1.007
38.0	0.851	0.883	0.899	0.957	0.985	1.018
38.5	0.860	0.892	0.908	0.967	0.995	1.029
39.0	0.869	0.902	0.918	0.977	1.005	1.040
39.5	0.878	0.911	0.928	0.987	1.015	1.051
40.0	0.888	0.921	0.938	0.997	1.025	1.062
40.5	0.896	0.930	0.947	1.008	1.037	1.075
41.0	0.905	0.940	0.957	1.018	1.047	1.085
41.5	0.914	0.949	0.966	1.029	1.057	1.096
42.0	0.923	0.958	0.976	1.039	1.069	1.108
42.5	0.932	0.967	0.985	1.049	1.079	1.118
43.0	0.941	0.976	0.994	1.059	1.089	1.129
43.5	0.949	0.986	1.004	1.069	1.099	1.140
44.0	0.958	0.995	1.013	1.079	1.109	1.150
44.5	0.966	1.004	1.022	1.089	1.119	1.160
45.0	0.975	1.013	1.031	1.098	1.131	1.173
45.5	0.983	1.021	1.040	1.109	1.141	1.184
46.0	0.992	1.030	1.049	1.119	1.151	1.194
46.5	1.000	1.039	1.058	1.128	1.162	1.205
47.0	1.009	1.048	1.067	1.138	1.172	1.217
47.5	1.017	1.056	1.076	1.148	1.181	1.226
48.0	1.025	1.065	1.085	1.157	1.191	1.236
48.5	1.033	1.074	1.094	1.166	1.202	1.247

Barley – Combined Test Weight and Pack Factors (Continued)

Test Weight	Less Than 255 Sq. Ft.	255 Sq. Ft. to 461 Sq. Ft.	462 Sq. Ft. to 767 Sq. Ft.	768 Sq. Ft. to 1384 Sq. Ft.	1385 Sq. Ft. to 2289 Sq. Ft.	2290 or Over Sq. Ft.
49.0	1.041	1.082	1.103	1.176	1.211	1.257
49.5	1.049	1.091	1.111	1.186	1.221	1.268
50.0	1.057	1.099	1.120	1.195	1.230	1.277
50.5	1.065	1.107	1.128	1.205	1.241	1.288
51.0	1.073	1.116	1.137	1.214	1.250	1.297
51.5	1.081	1.124	1.145	1.223	1.259	1.307
52.0	1.089	1.132	1.154	1.232	1.268	1.317
52.5	1.096	1.140	1.162	1.241	1.278	1.327
53.0	1.104	1.148	1.170	1.250	1.288	1.337
53.5	1.112	1.156	1.179	1.259	1.297	1.347
54.0	1.119	1.164	1.187	1.269	1.306	1.357
54.5	1.127	1.172	1.195	1.277	1.315	1.366
55.0	1.134	1.180	1.203	1.286	1.325	1.376
55.5	1.142	1.188	1.211	1.295	1.334	1.386
56.0	1.149	1.196	1.219	1.303	1.344	1.397

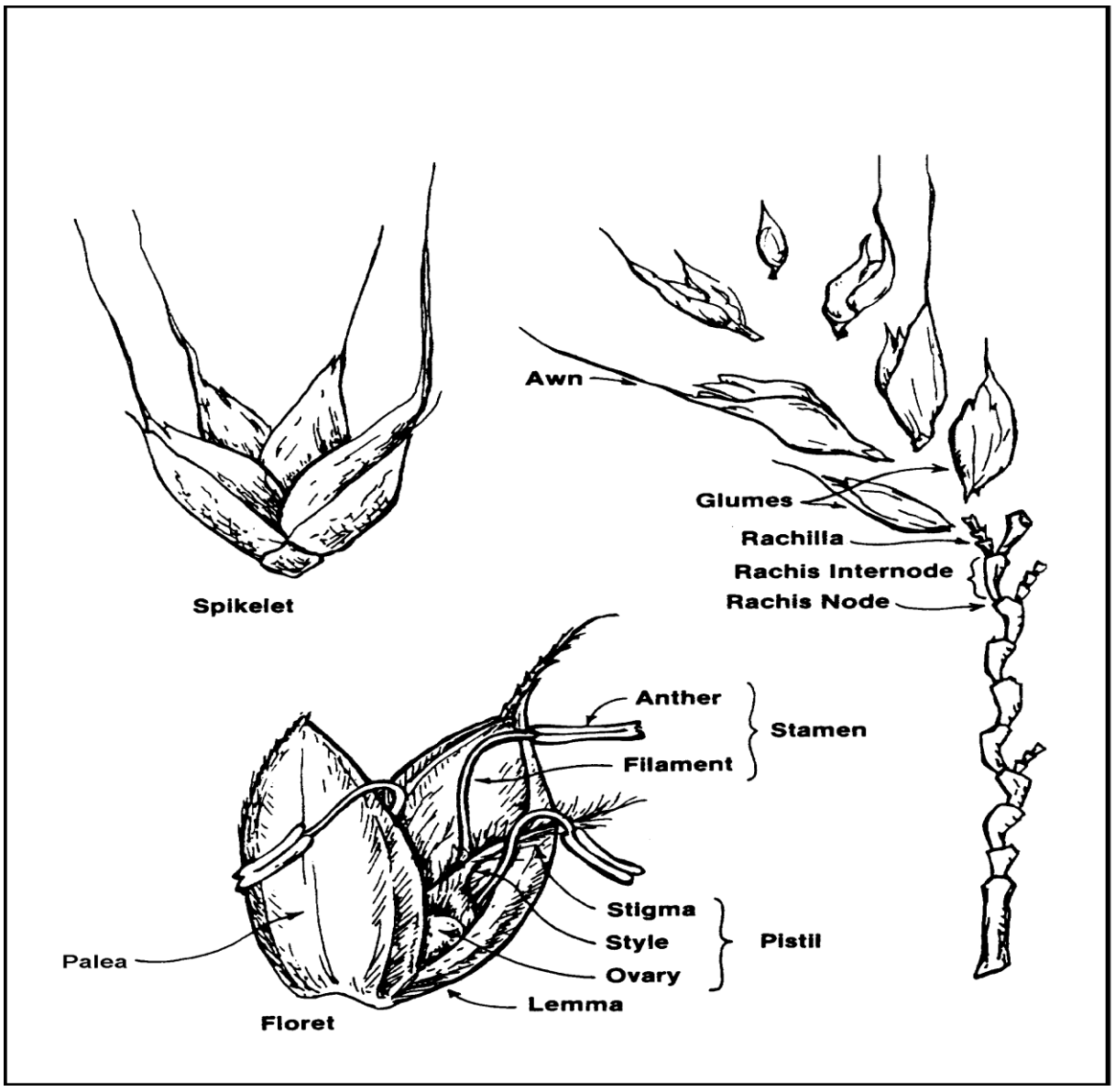
Oats – Combined Test Weight and Pack Factors

Test Weight	Less Than 255 Sq. Ft	255 Sq. Ft. to 461 Sq. Ft.	462 Sq. Ft. to 767 Sq. Ft.	768 Sq. Ft. to 1384 Sq. Ft.	1385 Sq Ft. to 2289 Sq. Ft.	2290 or Over Sq. Ft.
20.0	0.763	0.781	0.794	0.813	0.813	0.813
20.5	0.778	0.798	0.810	0.830	0.830	0.830
21.0	0.794	0.814	0.827	0.847	0.847	0.847
21.5	0.810	0.830	0.843	0.863	0.863	0.863
22.0	0.825	0.846	0.859	0.880	0.880	0.880
22.5	0.840	0.861	0.875	0.896	0.896	0.896
23.0	0.855	0.877	0.891	0.913	0.913	0.913
23.5	0.870	0.892	0.907	0.929	0.929	0.929
24.0	0.885	0.908	0.923	0.945	0.945	0.945
24.5	0.900	0.923	0.938	0.961	0.961	0.961
25.0	0.914	0.938	0.953	1.108	1.158	1.231
25.5	0.928	0.952	0.968	1.127	1.179	1.254
26.0	0.943	0.967	0.983	1.144	1.198	1.274
26.5	0.956	0.981	0.998	1.162	1.217	1.294
27.0	0.970	0.996	1.013	1.180	1.235	1.314
27.5	0.984	1.010	1.027	1.197	1.253	1.333
28.0	0.998	1.024	1.041	1.214	1.272	1.354
28.5	1.011	1.038	1.055	1.232	1.289	1.372
29.0	1.024	1.051	1.069	1.249	1.308	1.393
29.5	1.037	1.065	1.083	1.266	1.327	1.414
30.0	1.050	1.078	1.097	1.283	1.345	1.433
30.5	1.063	1.091	1.110	1.299	1.363	1.452
31.0	1.075	1.104	1.124	1.316	1.379	1.470
31.5	1.088	1.117	1.137	1.332	1.397	1.490
32.0	1.100	1.130	1.150	1.348	1.414	1.507
32.5	1.112	1.143	1.163	1.365	1.430	1.525
33.0	1.124	1.155	1.176	1.380	1.447	1.543
33.5	1.136	1.167	1.188	1.395	1.464	1.561
34.0	1.148	1.179	1.201	1.412	1.480	1.579
34.5	1.159	1.191	1.213	1.427	1.496	1.597
35.0	1.170	1.203	1.225	1.442	1.514	1.617
35.5	1.181	1.215	1.237	1.457	1.530	1.634
36.0	1.193	1.226	1.249	1.472	1.545	1.650
36.5	1.203	1.238	1.260	1.487	1.561	1.668
37.0	1.214	1.249	1.272	1.501	1.577	1.685
37.5	1.225	1.260	1.283	1.515	1.592	1.701
38.0	1.235	1.271	1.294	1.530	1.606	1.717
38.5	1.245	1.281	1.305	1.544	1.622	1.735
39.0	1.255	1.292	1.316	1.558	1.637	1.751
39.5	1.265	1.302	1.327	1.572	1.653	1.768
40.0	1.275	1.313	1.338	1.585	1.667	1.784
40.5	1.285	1.323	1.348	1.599	1.682	1.801
41.0	1.294	1.333	1.358	1.612	1.696	1.815
41.5	1.303	1.342	1.368	1.626	1.711	1.832
42.0	1.313	1.352	1.378	1.639	1.724	1.847
42.5	1.321	1.361	1.388	1.651	1.738	1.862
43.0	1.330	1.371	1.398	1.664	1.752	1.877
43.5	1.339	1.380	1.407	1.677	1.764	1.891
44.0	1.348	1.389	1.416	1.689	1.779	1.908

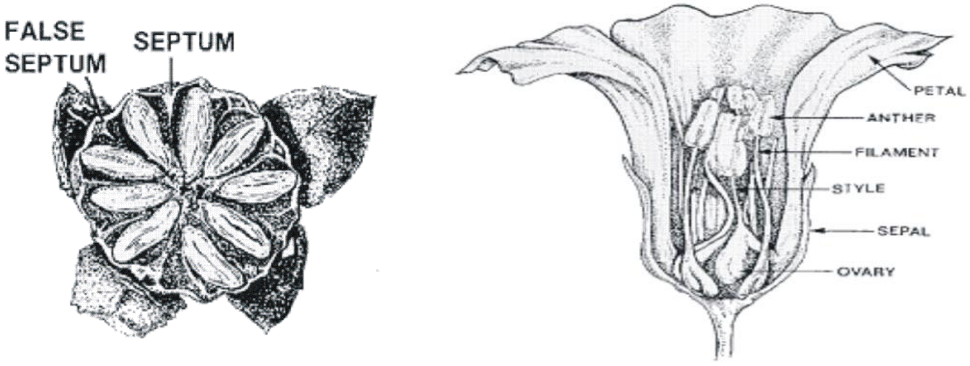
Oats – Combined Test Weight and Pack Factors (Continued)

Test Weight	Less Than 255 Sq. Ft	255 Sq. Ft. to 461 Sq. Ft.	462 Sq. Ft. to 767 Sq. Ft.	768 Sq. Ft. to 1384 Sq. Ft.	1385 Sq Ft. to 2289 Sq. Ft.	2290 or Over Sq. Ft.
44.5	1.356	1.398	1.425	1.702	1.793	1.923
45.0	1.364	1.406	1.434	1.715	1.807	1.938
45.5	1.372	1.415	1.443	1.728	1.821	1.953
46.0	1.380	1.423	1.452	1.741	1.835	1.968
46.5	1.388	1.431	1.460	1.754	1.849	1.983
47.0	1.395	1.439	1.469	1.767	1.863	1.998
47.5	1.403	1.447	1.477	1.780	1.877	2.013
48.0	1.410	1.455	1.485	1.793	1.891	2.028
48.5	1.417	1.463	1.493	1.806	1.905	2.043
49.0	1.424	1.470	1.501	1.819	1.919	2.058
49.5	1.431	1.477	1.508	1.832	1.933	2.073
50.0	1.438	1.484	1.516	1.845	1.947	2.088

Structure of Floret and Spikelet (Wheat, Barley, and Rye)



PICTURE OF A FLAX BOLL AND FLAX FLOWER



PICTURE OF A BUCKWHEAT PLANT

BM 94362.3	Large-seeded variety has higher yields, increased seed density, 1000 seed weight (36.9 g compared to 34.2 g) and earlier maturity than AC Manisoba. Seed density is high at 621 kg/m3 compared to 557 kg/m3 for Mancan and 570 kg/m3 for Manor. Its protein content is slightly lower than AC Manisoba. The seed is very dark brown to black.
BM 94199.1	Large-seeded variety has higher yields, increased seed density, 1000 seed weight (37.3 g compared 34.2 g) and earlier maturity than AC Manisoba. The seed is very dark brown to black.
Common	Small to medium in size, medium to high test weight, used by mills in making flour and pancake mix, also grown for cover crop seed.
KeuKett	Large-seeded variety, good early growth, lodging resistant, seed shape provides higher test weight, easier cleaning and dehulling, developed under a research contract between Kade Research Ltd. and the Birkett Mills, licensed to Birkett Mills in New York, sister line to Koto.
Koban	Large-seeded variety, higher test weight than Manor or Mancan, performs well in Central Plains but poorly in New York.
Koto	Large-seeded variety, higher test weight than Manor or Mancan, out yielded Manisoba by 13% and is more stress tolerant, available for the first time to northeast growers in 2002, released by Kade Research Ltd. in Morden, Manitoba.
Mancan	Large-seeded diploid variety, low test weight, good market acceptability, developed by Dr. Clayton Campbell, released by Agriculture Canada, licensed in 1974, was the dominant variety in the US until recently, currently produced in China.
Manisoba	Large-seeded variety, developed by Dr. Clayton Campbell, outperformed Manor by 10% in New York trials since 1995, contracted since 2000, mainstay in northeast production.
Manor	Large-seeded diploid variety, low test weight, good market acceptability, developed by Dr. Clayton Campbell, released by Agriculture Canada, licensed in 1980, production of certified seed is limited to Canada, one of the more dominant varieties, meets international market needs.
Pennquad	Very large-seeded tetraploid variety, good lodging resistance, grain especially well suited for milling due to its large, uniform size, released by Pennsylvania Agricultural Experiment Station in 1966.
Springfield	Large-seeded variety developed by Dr. Campbell while at Ag Canada, released as a numbered line to a Canadian company, not extensively produced in the US, limited production in Canada, performs well in Central Plains, but poorly in New York.

VARIETIES OF BUCKWHEAT (Continued)	
Tartary Buckwheat	*F. tataricum* Gaertner, closely related to buckwheat, but a separate species; also called Indiawheat and Duckwheat; small, slender seeds; about 40% smaller than buckwheat; poor honey producer.
Tempest	Small-seeded diploid variety, high test weight, selected by Agriculture Canada from a Russian seedlot, licensed in 1971.
Tokyo	Small-seeded diploid type, high test weight, selected by Agriculture Canada from a Japanese introduction.
Winsor Royal	Large-seeded diploid type, low test weight, good market acceptability, released by Winsor Grain Company in Minneapolis, MN in 1982, sale of seed regulated by the US Variety Protection Act.

Examples of Stage Development for Buckwheat

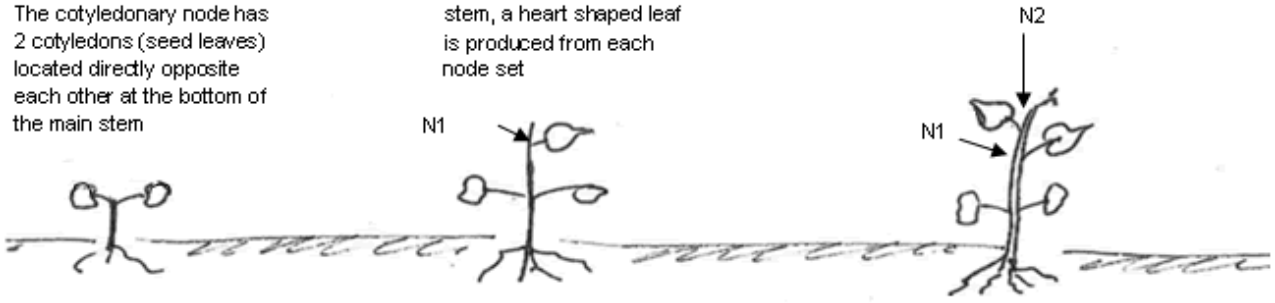


Figure 1

Figure 2

Figure 3

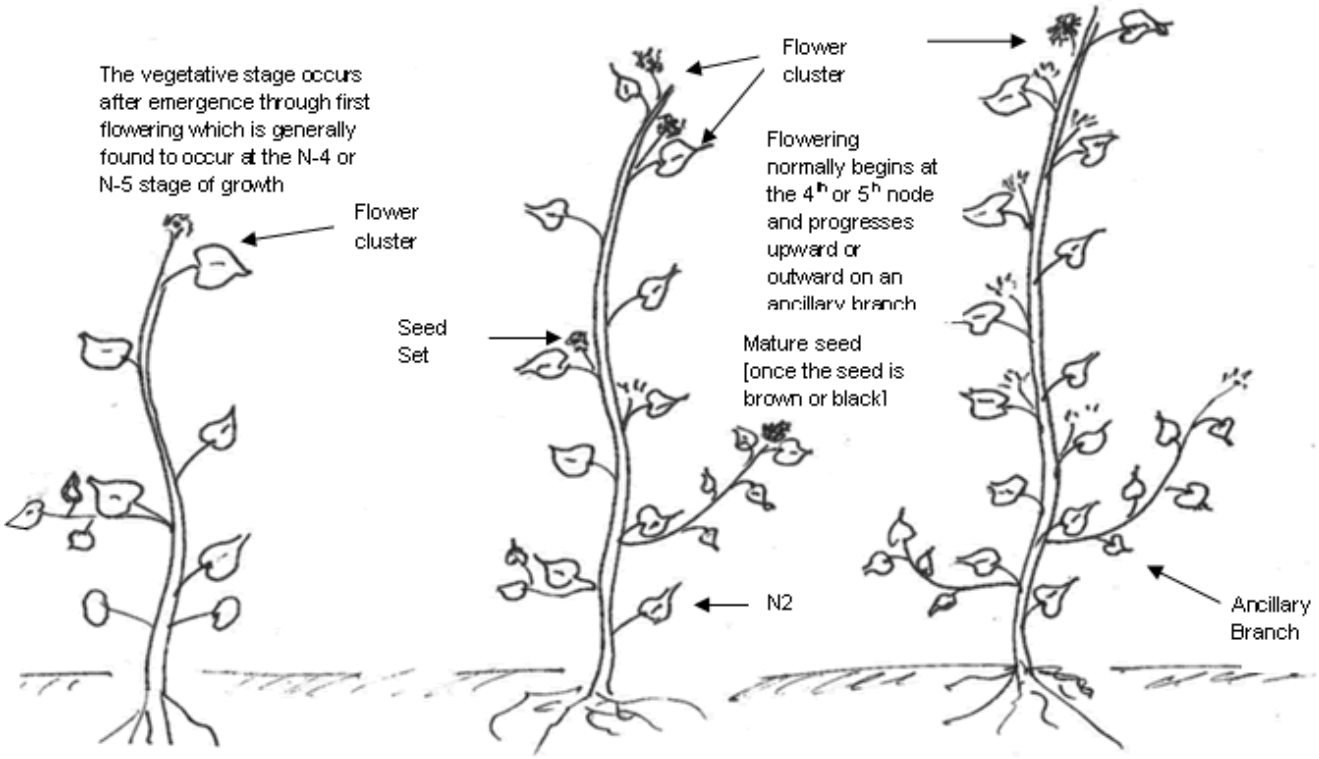


Figure 4

Figure 5

Figure 6