2004 FCIC 24010 CLASSIFICATION STANDARDS HANDBOOK (CSH)
SUMMARY OF CHANGES

This handbook has been in the reconstruction phase for the past two years. During this time, the Regional Offices have had several opportunities to provide comments, suggestions, and additions. Insurance Services and the Actuarial Division have provided additional review and comment.

The Handbook was reformatted using the same formatting and fonts as the Crop Insurance Handbook. Listed below is an overview of the changes that were made:

Reference:	**Description of additions, changes or clarifications:**
Table of Contents	Table of Contents was electronically generated and is linked to the applicable text.
Section 3	Definitions have been removed added or updated to agree with the handbook changes.
Section 4	Updated and expanded Adjusting Transitional Yields for High-Risk Land.
Section 4	Removed Continuous Cropping Practice.
Section 4	Removed Hard-Copy Evidence for Category "B and C" Crops.
Section 4	Removed Transfer of APH Yield History on Category "B and C" Annual Crops.
Section 4	Updated Master Yield using current procedure changes and combined prior Master Yield procedure into one area.
Section 4	Updated Perennial Crop Underwriting Guidelines and clarified RO authority.
Section 4	Removed Forage Production Age of Stand–no longer applicable/Policy Change.
Section 4	Removed Peanut procedure–no longer applicable, APH, updated Tobacco.
Section 4	Removed Peaches, Apples, Grapes/Table Grapes-Now covered in RMA RO Underwriting Guidelines.
Section 4	Added Land RMA RO procedures were outlined.
Section 5	Updated sections and added General High Risk Rate Calculations.
Section 6	Added section on Unclassified/Unrated land with subsections of Distribution of Production Guarantees and Rate Calculations, Identifying Unclassified/Unrated Land, Information Needed to Rate Unclassified/Unrated Land, and Methods of Insurance for Unclassified/Unrated Land.
Exhibit 2	Removed FCI-35 County Coverage and Rate Table. Replaced with Underwriting Guide Format.
Exhibit 3	Removed Master Yield Calculation-Covered in CIH. Replaced with new Flood Plain Characteristics and Rating Implications.
Exhibit 4	Underwriting Guide Format moved to Exhibit 2. Replaced with new Reference to Actuarial Structures.
Exhibit 5 & 6	Removed Letters-No longer applicable. Replaced Exhibit 5 with Spans Used for Tobacco.

United States Department of Agriculture

Product Development Division

FCIC 24010 (2004)

2004 CLASSIFICATION STANDARDS HANDBOOK

Regional Office Standards and Instructions for Determining and Assigning Coverage and Rate Classifications.

Reserved.

U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C. 20250

RISK MANAGEMENT AGENCY DIRECTIVE	NUMBER: 24010
SUBJECT: CLASSIFICATION STANDARDS HANDBOOK	DATE: **August 19, 2003**
	OPI: PRODUCT DEVELOPMENT DIVISION
	APPROVED: ***Tim B. Witt /s/***

1 PURPOSE

To provide the Risk Management Agency Regional Offices (RMA RO's) operating standards for coverage and rate classification determinations.

NOTE: IF A CONFLICT EXISTS BETWEEN THE LANGUAGE OF THIS HANDBOOK AND THE CROP INSURANCE HANDBOOK (CIH), THE LANGUAGE OF THE CIH WILL CONTROL.

2 CANCELLATION

2A **Effective Date**. The RMA 24010 Classification Standards Handbook became effective on August 19, 2003.

2B **Issuances Rescinded**. This handbook replaces Transmittal No. M7-9 dated August 3, 1992.

DISTRIBUTION.

Risk Management Agency Directors, Branch Chiefs, Washington, D.C. and Kansas City; Regional Offices, Risk Compliance Offices, NAD, and NCIS.

Reserved.

3 DEFINITIONS

3A **County actuarial structure**. A record of different coverage and/or rates with respective identification.

3B **Farming operation**. One or more persons who participate in establishing a yield history. Corporations, partnerships, and family operations are included under this title.

3C **Flood frequency**. The number of times flooding occurs over a period of years.

3D **Flood severity**. The degree of damage or loss caused by flooding over a period of a year or years.

3E **High-risk land**. Acreage with identifiable physical limitations to crop production that may increase the potential frequency and/or severity of loss; or expose a planted or intended crop to perils not generally encountered by most insureds. Such acreage may consist of flood plains, poorly drained areas, high sand content soils, high aluminum toxicity soils, high sodium content soils, high alkali soils, peat soils, soils with high or low pH, soils that are highly erodible, etc.

3F **Homogeneous yield area**. Defined portions of a county or state with similar crop yield or yield capabilities.

3G **Individual Determined Yield**. A yield determined by the RMA Regional Office (RO) used to complete a four-year base period when less than four years of actual production history are provided.

3H **Nonactual yield**. Any yield other than an actual yield that is used for the purpose of determining insurance coverage. Such yields include transitional, adjusted transitional, assigned APH yields, yield substitutions, etc.

3I **Unclassified/Unrated Land**. Acreage within a county without published coverage and/or rates.

4 COVERAGE DETERMINATION See [Exhibit 4]

4A Adjusting Transitional Yields For High-Risk Land

To reduce the frequency of excessive indemnities in high-risk areas, RMA may adjust transitional yields (T-Yields) by using T-Yield Map Areas or other actuarial document, to more accurately reflect an average yield for the area. The T-Yields in the database are also subject to change. Refer to the Crop Insurance Handbook (CIH) for more information on T-Yields.

A(1) **Identify areas of high-risk land** on the FCI-33, FCI-33 Legal Descriptor Document or FCI-33 Supplement. Use Natural Resource Conservation Service (NRCS) soils surveys, climatological data, insurance experience, RMA RO site inspections, and local resource personnel to determine the presence of high-risk land.

A(2) **Determine the adjusted "T- Yield"** for a high-risk area:

(2)(a) Calculation. Divide the weighted average yield potential of predominant soil-mapping units in the high-risk area (High-Risk Yield [HRY]), by the weighted average yield for the predominant soils of the cropland in the entire county (County Average Yield [CAY]), excluding any high-risk land. HRY/CAY = Yield Factor (F).

(2)(b) Determine the County Transitional Yield (T-Yield by practice/type/map area) from the county actuarial documents. Multiply the County T-Yield by Yield Factor (F) to obtain the adjusted T-Yield for the high-risk area. See [Exhibit 1].

A(3) **Determine the adjusted T-Yield** for flood prone/excess moisture areas:

Yields published by NRCS do not account for probable losses due to recurring problems with flooding and excess moisture; the following can be used to determine an adjusted T-Yield:

(3)(a) Determine the County T-Yield (by practice/type/map area) from the county actuarial documents.

(3)(b) Compute the flood/excess moisture frequency. Subtract the flood/excess moisture frequency from 1.00. Multiply the result times the County T-Yield. This will be the adjusted T-Yield for the flood-prone/excess moisture land.

A(4) **Soils with no published yields** (contact NRCS for updated or unpublished lists) may be ranked by using methods such as yield potential versus available water, comparability with other similar soils, adjustments for slope, salinity, etc., and interactions of these characteristics. Other sources of supporting information include climatological data, actual yield history, geographic information system mapping, university personnel and reports, NRCS and FSA personnel.

NOTE: Determination of adjusted T-Yields for high-risk land should be thoroughly documented and retained in the county work folder.

4B Master Yields

B(1) Approving County Crop Programs For Master Yields

Use the following standards to recommend county crop programs for master yields:

(1)(a) Agronomic practices generally preclude the accumulation of a complete four years of production history in a ten-year calendar period for a unit.

(1)(b) Unbiased third-party evidence of planted acreage and harvested production (supporting evidence) is available through a processor or the insured.

(1)(c) The occurrence of a large number of policies for the crop and predominance of crop share (vs. cash rent/ownership) may cause administrative problems with an operator entity master yield, because sharing landowners may be insured with a different company. NOTE: Added land procedures for standard APH will not apply to a crop in a county eligible for master yields. If the crop has not been produced for four years or more, producers would not be eligible for master yields and will be limited to variable or 100% T-Yields.

(1)(d) Master yields are applicable on a county crop program basis. Different Master yields may be established for areas with similar growing conditions. This is referred to as the master yield homogenous area.

(1)(e) Submit recommended changes to the Master Yield List in Exhibit 7 of the CIH by crop and state or by county crop program to the Product Development Division no later than COB on the first of March each calendar year.

B(2) Determining Homogeneous Master Yield Areas

(2)(a) Considerations when determining a homogeneous master yield area include:

1 Soil type and yield potential;

2 Rainfall and climatic conditions;

3 Farming practices and management;

4 Loss experience;

5 Actuarial maps; and

6 Farm Serial Numbers (FSN) or legal descriptions.

B(3) **Hard-Copy Evidence For Master Yields**

For cases where the RMA RO determines the approved APH yield, the RMA RO may require hard-copy evidence of production when reported yields do not appear reasonable.

(3)(a) Reasonable means: The reported yield is greater than the result of multiplying the applicable lower level yield edit factor for annual crops contained in the Data Acceptance System (DAS) manual times the transitional yield for the practice/type for the county or area within a county.

(3)(b) Send a letter to the Insurance Provider (IP) describing the required hard-copy evidence. Remind the company/agent that RMA RO will assign a yield if the required evidence is not returned within 20 calendar days from the date of notification from the RMA RO.

B(4) **Transfer Of APH Yield History For Master Yields**

(4)(a) In some cases, an insured with a master yield may expand the farming operation across a county or state line or form a new entity. When this occurs, the published Transitional Yield may not be appropriate. The RMA RO may determine a yield (F Yield Descriptor) to be used in place of the published Transitional Yield until four years of production history can be accumulated. Upon receipt of a timely filed Request For Actuarial Change (as defined in the CIH), the RMA RO may consider determining a yield for the following cases:

1 Producers who have a master yield in a county and expand their operation into an adjacent county that has similar yield expectations.

2 Individuals who participate in the creation of a master yield credited to another person (New Entity) must have participated in management of the crop for at least four years. In addition, the RMA RO must determine that a reasonable expectation of similar production from this new entity exists in order to issue an RO Determined Yield. If the entity change qualifies for successor-in-interest, a total transfer of the database would be used. Refer to Section 4 in the CIH.

(4)(b) RMA RO Determined Yields

1 MAP AREAS: This procedure may apply to counties that have map areas if the Transitional Yield in the map area in the county expanded into is within 15 percent of the Transitional Yield in the map area of the existing county. The RO Determined Yield will be reduced by the ratio of the Transitional Yields, but will not be increased above the actual yields. No RO Determined Yields are authorized between map areas within a county.

2 RO's may determine and issue a reasonable yield to be used in place of the Transitional Yield until four years of actual yields can be accumulated. Reasonable yields may be determined by:

a Using NRCS soil survey yields by soil-mapping unit to establish relationships between acreage.

b Indexing yields using the ratio of Transitional Yields or processor averages between Transitional Yield areas, types, practices, or varieties. The RO Determined Yield will not exceed the actual yields obtained by the original entity or adjacent county.

3 The RMA RO will establish the RO Determined Yield and issue it in a letter to the company instructing them to use the yield in the master yield Database(s) with an "F" descriptor and to keep the letter in the producer's file until four years of actual history is accumulated on the master yield(s).

4C Perennial Crop Underwriting Guidelines

Submit proposed guidelines or updates to existing guidelines to the Product Development Division for approval. Existing guidelines will apply unless changes are submitted for approval prior to the yield determination process for the crop year.

C(1) **Each RMA RO** will establish underwriting guidelines to determine yield adjustments when needed. Consider the following criteria when developing these guidelines:

(1)(a) The use of inspection reports which indicate the condition of the crop, cultural practices, level of management, etc.

(1)(b) The use of insured's yield history.

(1)(c) History of previous insureds.

(1)(d) Variations in base yield for each crop within states and between states.

(1)(e) Current growth stage.

(1)(f) Orchard density and tree spacing.

(1)(g) Tree/vine/bush variety (cultivar) by block or unit.

(1)(h) Degree of carryover damage (disease, freeze, etc.).

(1)(i) Outside sources of underwriting information such as university extension specialists, etc.

C(2) **Guideline Preparation**

(2)(a) Format office underwriting guidelines as shown in [Exhibit 2].

(2)(b) Use the BACKGROUND statement to define the problem being addressed.

(2)(c) Use the DETERMINATION portion of the guidelines to convey a concise decision statement.

(2)(d) Use the IMPLEMENTATION section to define office procedures.

C(3) **Regional Offices are authorized in the Crop Insurance Handbook to issue guidelines**, which waive pre-acceptance field inspections for certain situations (e.g., abnormally low yields from insurable causes(s) of loss for a given area may cause the yield variance to require field reviews of an excessive number of contracts).

(3)(a) Waiving pre-acceptance field inspection. As per the CIH, Insurance Providers are not required to perform field inspections, based on the yield variance (as amended by RMA RO guidelines), on more than 10 percent of their Category C APH contracts per crop, per region. The RMA RO is authorized to issue additional guidelines/criteria identifying which contracts (by crop, by region) are to be selected under the 10 percent limitation.

(3)(b) Pre-Acceptance Perennial Crop Inspections

The CIH also states that the "Insurance Providers should contact the applicable RMA RO and specify the reason, which may cause excessive pre-acceptance field inspections, and provide examples, which clearly indicate that excessive pre-acceptance field inspections would be required."

RMA RO may issue guidelines that waive making Pre-Acceptance Perennial Crop Inspection Reports if more than 10 percent of a companies Category C Crop policies by crop, by region will be selected under the Yield Variance in CIH Section 7 F(2)(b)1&2.

1 Regional guidelines should only address the policies that should be reviewed under this 10 percent rule (e.g., When selecting policies, priority should be given first to polices selected for yield variance with Pre-Acceptance Perennial Inspections Reports that are greater than five years old).

2 Copies of the RO guidelines/criteria identifying which contracts by crop by region are to be selected, under the 10 percent rule for completing Pre-Acceptance Perennial Inspections Reports due to yield variance, must be submitted to the Product Development Division, Underwriting Standards Branch for approval, prior to being issued. RMA RO's are not authorized to waive doing any inspections reports for these contracts or any other CIH

procedure. Once approved by RMA RD/PDD/UD guidelines should be made available electronically on the Regional Office Websites, at the same time they are issued.

(3)(c) RO Determined Yields

The RMA RO may issue guidelines to Insurance Providers authorizing them to calculate approved APH yields for cases where RMA RO determinations would otherwise be required. In these cases forwarding of the documentation to the RMA RO would not be required. As per CIH Section 7F(3)(b)3, Insurance Providers are required to send a list of these policies to the RMA RO for spot check purposes.

Copies of the RMA RO underwriting guidelines, with instructions for calculating yields and doing yield substitutions under the yield adjustment election, must be submitted to the Product Development Division/Underwriting Standards Branch for approval. Once approved by RMA RD/PDD/UD guidelines should be made available electronically on the Regional Office Websites, at the same time they are issued.

1 The RMA RO should be cautious in issuing any guidelines to address catastrophic years that would alter adjustments for alternate bearing or down trending identified by the present yield variance contained in CIH procedure. The RMA RO's may not waive CIH procedures preventing CUPS, to apply, to contracts selected for special cases or RO Determined Yields. See [3d) below] for Yield Substitutions.

2 The RMA RO should spot-check and/or review approved APH yields completed by an Insurance Provider authorized to under RMA RO guidelines for Perennial Category C Crops.

a RMA RO Determined Yield Request with Pre-Acceptance Perennial Crop Inspections, less than five years old (unless documentation following procedure to waive based upon the 10% rule), and all other required supporting documentation, should be reviewed to determine compliance with RMA policy, procedure and guidelines.

b The RMA RO guidelines will provide instructions for selecting policies for spot check and/or review. A minimum of one policy by crop by insurance provider by state must be pulled for spot check or review.

3(d) Yield Limitations and Adjustments

1 The actual yields, prior to any substitution under the yield adjustment election, are used for determining if any yield adjustments may be required.

As per CIH Section 7 J(6)(a) Yield limitations (CUPS) do not apply to policies identified as special cases.

a Special cases are identified in the CIH Section 7F(2), yield substitutions for these policies are determined by RMA RO's.

i CIH Section 7(2)(b) 1 & 2.

aa CIH Section 13 D(7)(a)2 a, yield substitutions (60% of T-Yield) will not be made for low yields occurring due to alternate bearing years such as policies identified by CIH Sec. 7(2)(b)1.

bb CIH Section 13 D(7)(a)2 b, yield substitutions will not be made for low yields occurring due to yields declining, such as policies identified in Section 7 F(2)(b)2.

ii CIH Section 7(2)(c), productivity is reduced due to disease, damage has occurred or cultural practices have been performed that will reduce the insured crop from previous production levels or answered yes to Question #22 on the Producer's Pre-Acceptance Worksheet. Acreage that is in poor condition, being renovated, grafted, or reduced tonnage contracts, etc., such as policies identified in Section 7 F(2)(c).

iii CIH Section 7(2)(e), irrigation water supply is not adequate such as policies identified under Section 7 F (2)(e).

iiii CIH Section 7(2)(f), unusual cases submitted to the RMA RO, policies identified under Section 7 F(2)(f) (e.g. contracts with young acreage, prior to 2001, where 60% T-Yield substitutions may be greater than the acreage is capable of producing).

b Requests for greater yields than the average yield are for policies not identified as special cases.

i Policies identified as special cases, requesting the RMA RO to establish higher yields after approved yields are issued, must be submitted under reconsideration criteria (within 30 days of issuance of the approved yield).

2 RO Guidelines Examples:

a If the RMA RO identifies in their guidelines that the Yield Variance Table in Section 7 F(2)(b)1 of the CIH will be used to determine alternate bearing for a crop such as apples. The RMA RO may have a tolerance test for policies that are selected by this table, prior to doing any yield substitutions. They may issue guidelines such as the most recent crop year's yield is equal to or greater than 125 percent of the APH average yield and the prior year's

average yield is 75 percent or less than the APH average yield. For these policies adjustments will by made using the average of the years in the database could be multiplied by 0.5 and the average of the two lowest yields multiplied by 0.5 and sum the results to obtain the RO Determined Yield. Units selected that are identified as alternate bearing would not qualify for the 60% yield substitution or CUPS based upon the CIH procedures.

However, contracts selected by this criteria, that the RMA RO identifies as not having alternate bearing, may have low yields that qualify for the 60% T-Yield substitutions.

b Using the yield variance in Section 7 F(2)(b)2, policies selected by this criteria are also determined prior to doing any yield substitution. The RMA RO guidelines may indicate that adjustments for policies selected where the most recent three years average is 25 percent less than the APH average yield (prior to any yield substitution) should by limited to 80% of the prior three year average.

As per CIH procedure the 60% T-Yield substitutions are determined by the Corporation not to be appropriate for qualifying years, and CUPS will not apply for these units. Contracts selected by this criteria, that the RMA RO identifies as not having yield declines may qualify for the 60% T-Yield substitutions for qualifying low yields.

c If the unit had been selected because productivity had been reduced, the yield substitution may be used prior to adjustment only for insurable causes such as disease and hail. However, if cultural practices were to limit production, such as a reduced tonnage contract, or grafting, removal of trees/vines/bushes, the approved yield will be limited to the terms of the contract, condition of the acreage or policy provisions on insurability.

NOTE: These provisions and any guidelines the RO may issue or follow cannot change or waive procedures in the Crop Insurance Handbook or provisions of any Policy.

4D **Tobacco Producers** Except Tobacco type 31; 41 & 32 PA; 51 & 61 CT; 51 &61 MA; and 32 MD). Refer to the CIH for additional information.

D(1) **As provided in the Crop Insurance Handbook**, insureds are not required to report yield history on an APH form. Producers report yield history to the USDA/Farm Service Agency (FSA) County offices. RMA obtains this producer data from FSA, processes the data into county producer classifications, see [Exhibit 5] and publishes these classifications in County FCI-32 (Producer) Actuarial Classification Listings, hereafter referred as listings. Producer insurance coverage and guarantees are determined from these listings and associated rules pages.

D(2) **Producer classifications are updated annually** using FSA's most recent ten (10) year history of county planted acreage and production. This ten year history is referred to by RMA as the base period. Due to the timing of data availability from FSA to RMA's filing schedule, there is a one-year lag applicable for the listings. (Example: Crop year 2004 listings are based upon 1993-2002 planting history.)

(2)(a) If the producer has ten years of actual yields, total all production and acreage from all farms for each of the ten years in the base period. Divide production by acreage for each year to derive a weighted average by year. Drop the high and low yields and divide by eight for the product average.

(2)(b) If the producer has three to nine years of actual yields in the base period, determine the weighted average yield for each year by dividing total production by total acreage from all farms for each of the producer's planted years. Sum the weighted average yields and divide by the sum of the county average NASS yields for the same years to determine an index. A proxy yield for each non-planted year will be determined by multiplying the county average NASS yield for that year by the index. The high and low year yields will be dropped and the simple average determined for the remaining year(s) yield(s).

(2)(c**)** If the producer has two years of actual yields in the base period, determine the weighted average yield for each year by dividing total production by total acreage from all farms for each of the producer's planted years. Sum the weighted average yields and divide by the sum of the county average NASS yields for the same years to determine an index. The index will be cupped at .60 and capped at .95. A proxy yield for each non-planted year will be determined by multiplying the county average NASS yield for that year by the index. Determine the simple average for the ten years.

(2)(d**)** If the producer has one year of actual yield in the base period, determine a proxy yield for the missing nine years by multiplying the county average NASS yield for each year by .80. Determine the simple average for the ten years.

D(3) **FCI-32 Actuarial Classification Listing Rules Page** will provide rules that govern the producer classifications published in the listings. RMA RO's are authorized to define the rules that govern producer classifications in their regions.

D(4) **RMA RO's are authorized to establish classifications by farm serial number** based on the risk associated with the land. The Farm Serial Number (FSN) listing on the last page(s) of the FCI-32 provides classifications for farms for which limits will be imposed. The primary reason for limiting a farm classification would be where the producer has similar yields on most farms, except one or two. The exceptional farms generally have yields that are considerably lower than those of other farms. This situation possibly indicates severe problems with this land; therefore, lower yields. It may be advisable to limit the amount of coverage assigned to this land. FSN classifications reflect land risk only.

D(6) **Producer with no history** of planted acreage the last (4) four years in the database will be flagged in the database and their names omitted from the listing.

D(7) **Two or more producers on same farm with different data.** The RMA RO will separate acres within a FSN only if FSA verifies separate acres and production by producer. When this is done, the RMA

RO will use the tract system to establish multiple records for a single FSN. **Example**. 00001-1 (tract)

D(8) **Unlisted Producers.** Any producer not shown on the FCI-32 listing must request a classification from the RMA RO, unless otherwise provided for on the FCI-32 Rules Page.

4E Added Land Discretion

Beginning with the 2003 crop year, discretion was granted to the RMA RO's to consider factors other than the land productivity when reviewing added land request. Examples of cases or other factors to consider is when yields used to determine the Simple Average (SA) T-Yield are from small acreages. In such cases, the RMA RO's may authorize use of a variable T-Yield rather than a SA T-Yield.

Added land requests are submitted to RMA RO's for cases where added land exceeds the acreage thresholds. See the CIH, Exhibit 36, for thresholds. The RMA RO's will review requests to determine if use of SA T-Yields is appropriate.

Following is an outline to determine if authorization of SA T-Yields is appropriate, for requests exceeding thresholds shown in the CIH, that require RMA RO review. The goal of RMA RO reviews is to determine that:

E(1) **The added land has similar characteristics as the existing land**, currently in the operation, that would indicate productivity falls within 15% of the existing land.

(1)(a) Soil survey yield data and maps showing soil types are used to compare, or climate or elevation data may also be used to determine similar agronomic conditions.

(2)(b) The actual production history for the crop by P/T/V on the added land for the previous crop year(s) from the previous operator/tenant and submitted by the insured, may be used for this comparison.

E(2) **The actual yields reported from the existing land** in the operation, being used to determine the SA T-Yield, are credible and represent sufficient acreage to provide a reliable source to base yields for the added land.

For instance, if it appears average yields used to determine the SA T-Yield contains "yield builders" such as small amounts of acreage compared to the amount of land being added or the data base for the

existing unit has acreage going from small to large and these yields exceed T-Yields, the average yield may be reduced to determine use of the SA T-Yield.

(2)(a) The simple average yield for the basic unit can be recalculated to determine if the recalculated yield is within 15% of standard (unadjusted) SA T-Yield.

1 Compute the weighted average of all qualifying units in the basic unit and T-Yield areas to eliminate any problems with small acreage and high yields.

2 Remove the high yields for small acreage, if there are no other similar units with acreage for the year. If the added land has equal productivity to the existing land, (based upon soil types, etc.,) but the recalculated yield is less than 85% of the standard SA T-Yield that would be applied by added land procedure, the RMA RO would determine that the variable T-Yield is appropriate for the request.

5 HIGH RISK LAND RATE CLASSIFICATION

5A **Flood**. Each river and its flood plain represent complex interaction between hydrology, topography, crop physiology, weather, soils, and the effects of human intervention, see [Exhibit 3].

Flood is a random predictable peril affecting identifiable locations and representing a definable risk that is in addition to the standard insurance risk for the crop and county. (Recurrent frequency of the event within a locality is observable and measurable.) These unique characteristics dictate a separate accounting for the risk within an actuarial structure of an insurance product. This segregation of risk is typical for all crop, property, and personal liability products offering flood insurance.

A(1) **Rating Flood Prone Land**.

(1)(a) Rate flood prone land based on the extent, frequency, and severity of loss. The determined premium rate (additive, multiplicative, or fixed) that corresponds with a classification assignment on the FCI-33 will be listed on the FCI-35, Coverage and Rates table. Premium rates or rate area classifications may also be identified on the FCI-33 Legal Descriptor or FCI-33. More than one rated area may be identified on these actuarial documents if the county has multiple river, streams, or watersheds; if crops are grown between the river and a levee, or the risk of flood varies within the same location (e.g., changes in elevation).

(2)(b) Rating for flood requires consideration of the crop, the extent of potential flooding, flood severity, and frequency of occurrence. Determine the minimum flood stage or elevation that will be used to determine flood frequency. A premium rate may be calculated for an area using river gage stations along the river or from a comparable watershed. Readings should be obtained for at least the most recent 20-year period that data are available.

A(2) **Determining extent, frequency, and severity**.

(2)(a) Isolating the extent of flood risk is the process of identifying land directly and indirectly affected by flooding. A direct impact would be on unprotected land adjacent to the river. Resulting damage would be immediate and obvious. An indirect impact may be on acreage behind a levee that is vulnerable to seepage, overtopping, levee breach, high water table, or poor drainage. The extent of potential flooding is influenced by elevation, flood magnitude, topography, presence and amount of natural vegetation during the year, watershed size, flood control measures, and artificial drainage. Flood zone maps produced by other governmental entities, topography maps, soil surveys, direct physical observation, aerial photography, etc., may be used to determine the extent of flood risk. Use the FCI-33 to show determined high-risk area boundaries.

(2)(b) Determining frequency consists of tabulating how often, when, and the duration of flooding. There are many possible flood magnitudes; hence, many possible elevations affected within a flood plain. Duration and timing also have significant influence. Short duration flooding late in the growing season may produce negligible damage to a particular crop. The same type of flood experienced during mid-season may cause total loss. The opposite results may be produced when a different crop is planted.

1 Determining the frequency and severity of crop loss from a historical flood depends on gaining an idea of:

a When it occurred during the year.

b The depth of the water.

c The size of the area affected.

d How fast the water moved.

e How quickly the water receded.

2 In addition to these historical observations, unique characteristics of each crop and the applicable insurance program must be considered:

a When the crop is normally planted.

b How high the crop grows.

c At what point(s) during the growing season is the crop more or less susceptible to flood damage.

d What features of the insurance product mitigate or enhance the potential for indemnification.

3 Example considerations:

A major flood in the Midwest in early March has no effect on the probability or severity of a corn loss because the crop is not normally planted.

The effects of a slow moving, shallow flood that recedes reasonably quickly during early September will be negligible effects on corn, but catastrophic to soybeans.

A late April flood that drains away quickly may produce a corn replanting payment, but is not likely to result in a total loss unless soil type drainage limitations or continued rainfall prevent replanting the crop.

(2)(c) Determining loss severity involves identifying the percentage of crop loss associated with each historical flood when data are available. Flood is usually catastrophic to a growing plant. It does not gradually reduce a plant's ability to produce (such as drought). The plant is most often simply eliminated. However, consideration to overall loss within an area must be given when evaluating each event. For example, an early season flood may result in replanting or delayed planting of the crop. Final yields may be unaffected or reduced. A crop planted later than normal due to flooding is younger and more vulnerable to stress from drier summer conditions than a timely planted crop. The resulting cause of loss may be drought although the initial contributing factor was flood.

Develop a flood severity scale for each crop. Apply the scale whenever the river exceeds flood stage or a point where crop damage may occur. This flood severity scale should account for the time of the flood and the expected yield loss. Early season flooding causes delayed planting or replanting of the crop without severely limiting crop potential. While floods occurring near the final planting dates and later are often catastrophic. An example of a severity table ranking the significance of each historical event may look like the following:

Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
0	.10	.50	1.00	1.00	1.00	1.00	1.00	0

A(3) **Evaluating flood gage peak flow discharge verses daily flow discharge rates**.

(3)(a) When evaluating peak and daily flow discharges, a difference will be seen between the cubic flow amounts recorded in each data set. A block of data may look like this:

Date	Peak Flow Discharge	Daily Flow Discharge
1979.04.12	19700	17300
1996.05.08	13000	7280
1993.09.23	8820	6340

(3)(b) The peak flow discharge is the instantaneous discharge for the highest gage height recorded for that day (or period). Gage height is measured usually every 15 minutes, although some programs have a variable time recording of gage height. The highest gage height reached is used to compute the peak discharge.

(3)(c) The daily flow discharge is the average sum of the discharges obtained from the daily gage height readings. This is why the peak flow is higher than the average flow.

(3)(d) These differences have several ramifications on flood rating.

1 When performing flood event analysis, recognize that a daily flow discharge has affected more or less of the flood plain on that day than the daily average or mean alone.

2 A large variation between peak and daily average flow may suggest:

a Faster moving water and quicker plant destruction.

b Presence and effect from flood abatement measures.

c Possible water release or diversion from man-made flood control structures.

d Flood damage between levees and the river may be more immediate and more severe than on an unprotected river.

A(4) **Determining Flood Peril Premium Rates**.

(4)(a) Apply the appropriate weight for each time the river was above flood stage. The loss severity weight for any single year cannot exceed 1.00 since this denotes a total loss. Total the weights assigned and divide by 20 (number of years of flood data). The result is the risk-rate for flood. Refer to Section 5 C for additional rate calculation instructions.

(4)(b) This system works well when flood-history data are available. When data is not available, the RO must utilize other sources of information such as the NCRS Soil Survey Report Field Reviews during seasons of flooding, the county soil surveys aerial photography, topographic maps, and personal interviews within the county to evaluate the flood risk.

5B Rating of Fragile and Highly Erodible Land.

B(1) **Land with inherent risk factors** such as low water holding capacity, excess water runoff, salinity, alkalinity, etc., will be rated based on known rates for comparable land in a similar climate. The rate that corresponds with a classification assignment on the FCI-33 will be shown on the FCI-35 as a fixed, add on, or multiplicative rate.

B(2) **Establish a rate based on a county having similar characteristics, or in which the soil, climate topography, etc., of the land in question is within normal variation for the county**. In some cases, rates could be determined from individual insurance experience versus the county for the same crop years after conversion to the same coverage level and on a yield (free from the effects of revenue products) only basis.

B(3) **Methods to establish new rate areas**, to aid in reviewing prior high-risk rate areas, and determining a rate for a written agreement:

(3)(a) Determine rate from a known area. Once an area of similar characteristics is found, calculate the rate for that area using the expected yield for the new rate area. Divide this rate by the rate at that same yield in the county in which the new rate area will be established. Adjustments in yields and rates may need to be made based on differences in climate or soils between the area of known rates and the new rate area. (If the result is less than 1.2 (20% difference), do not establish the high rate area for that crop or consider removing an existing high rate area.

(3)(b) Determine rate from producer experience. This may be practical to do in areas with few producers and verifiable insurance participation within the proposed high rate area. Determine who is insured in the proposed high rate area. Normalize producer and county insurance experience for the same years to a common coverage level and on the basis of yield only (free from effects of revenue products). Determine the average APH yield of the pool versus the county. Compare the pool rate at the pool yield to the county rate at the county yield. If the result is less than 20% higher, do not establish the high rate area for that crop or consider removing an existing high rate area.

(3)(c) Determine rate when not practical to do (a) or (b). If the high rate area is determined to be necessary and justifiable, start the area with a 20% rate increase (multiplicative factor of 1.20) and monitor experience over several years to determine needed adjustments.

5C Climatic Conditions and Microclimates

C(1) The climatic conditions, length of growing season, Growing Degree Days (GDD), risk of frost and/or freeze are so common in the area or micro climate that the success in growing the crop (or lack of data) may be infrequent and it cannot be determined that the crop is adapted to the area. Frost and freeze probabilities (temperature, frequency, and duration) associated with the crop (annual or perennial)/type/variety/growth stage, geographic location, and topography are important considerations when it comes to determinations of insurance coverage and appropriate rates (premium) that are acceptable to the insured and insurer. The below listed items identify possible considerations when making frost and freeze rating determinations. See also [6 Unclassified/Unrated Land].

C(2) The county contains numerous microclimates or areas where the growing season is limited or inadequate to produce the crop/type.

C(3) Frost and /or freeze. Crop losses increase dramatically as the temperature falls below the critical temperature sometimes defined as the temperature at which a 10% loss in production is expected. As an example the difference between a light 10 percent killing frost and a disastrous 90% kill may be 3 degrees Fahrenheit.

(1)(a) Two general conditions provide freezing temperatures.

1 Artic outbreaks associated with migratory cold air masses.

2 Nighttime radiational cooling.

Both situations may result from the same conditions following a cold front passage; indeed radiational cooling may bring further surface cooling to an area already affected by the an Artic outbreak.

(2)(b) Sources of information and publications that provide freeze probabilities and damage estimates for given states and specifics locations are available through:

1 Federal and State agencies such as:

a NOAA

b National Climate Data Center

c Regional Climate Centers

2 National Weather Service

Note: Weather station information is available through some of these agencies.

a Research publications and staff of the Cooperative State Research, Education, and Extension Service.

b USDA agencies such as NASS, NRCS and the Farm Service Agency (Both can provide valuable insight as to local conditions.)

c United States Geological Survey.

5D **General High Risk Rate Calculations**.

C(1) **The basic formula for rating a high-risk peril such as flood is**:

F x S = Peril Base Premium Rate Add-on

Where:

F = Frequency of Loss Occurrence Over Time
S = Severity of Loss

C(2) **A rate determination for measurable risk within defined boundaries** may involve the use of two modified forms of this basic rate formula depending on what type of rating (Worst Case Rating verses Class Average Rating) best fits the characteristics of the risk and its location.

Worst Case Rating

The basic formula for worst case rating is:

$$\frac{\Sigma (E)}{(Y_t)} \times \frac{\Sigma (S_t)}{n} = \text{Peril Base Premium Rate Add-on}$$

Or,

$$\frac{\text{Number of Events}}{\text{Total Number of Observed Years}} \times \frac{\Sigma (\text{Observed Severity})}{n} = \text{Peril Base Premium Rate Add-on}$$

Where:

E	=	Event
Yt	=	Total Years Observed
St	=	Observed Severity/Timing of Event
n	=	Count of Observed Severities

Note: Each Event = 1.0

Example: The data show flooding has occurred 6 times over a 20-year period during the spring crop growing season. The timing of floods indicates a severity of .50 for each event.

Number of Events = 6
Total Number of Observed Years = 20
Σ of Observed Severities = (.50+.50+.50+.50+.50+.50) = 3.0
Count of Severities (*n*) = 6

$$\text{Base Premium Rate Add-on} = \frac{6.0}{20.0} \times \frac{3.0}{6.0} = 0.150 \text{ or } .2$$

Class Average Rating

The basic formula for class average rating is:

$$\frac{\Sigma (E)}{(Y_t)} \times \frac{\Sigma (S_e \times S_t)}{n} = \text{Base Premium Rate Add-on}$$

Or,

$$\frac{\Sigma \text{ of Events}}{\text{Total Number Of Observed Years}} \times \frac{\Sigma (\text{Observed Severity})}{n} = \text{Base Premium Rate Add-on}$$

Where:

E	=	Event
Y_t	=	Total Years Observed
S_e	=	% of Defined Location Affected
S_t	=	Observed Severity/Timing of Event
n	=	Count of Observed Severities

Note: Each Event = 1.0

Example: The data show flooding during the growing season 10 out of the 20 total years observed. The following table of event frequencies and severities represents the effect of class average rating on flood rating:

Year	E	S_e	S_t	$(S_e \times S_t)$
1998	1.0	0.75	1.00	0.75
1996	1.0	0.50	0.30	0.15
1994	1.0	0.80	1.00	0.80
1993	1.0	1.00	1.00	1.00
1992	1.0	0.20	1.00	0.20
1990	1.0	0.60	0.50	0.30
1986	1.0	0.90	1.00	0.90
1985	1.0	0.50	0.10	0.05
1982	1.0	0.30	0.25	0.08
1981	1.0	1.00	0.50	0.50

$\Sigma(E) = 10.0$ $\Sigma(S_e \times S_t) = 4.73$

Number of Events = 10.0
$\Sigma(E) = 10$

Total Number of Observed Years = 20
Σ of Observed Severities = 4.73

Count of Severities (*n*) = 10.0

Base Premium Rate Add-on = $\frac{10}{20} \times \frac{4.73}{10} = 0.237$ or .2

Determined Add-ons should be rounded to tenths unless the data used is accurate to two decimal places. The natural variation within each flood zone makes calculating the premium rate to hundredths of a point does not improve the accuracy of the rate in most cases.

6 UNCLASSIFIED/UNRATED LAND

6A **Distribution of production guarantees** is accomplished by classifying the county coverage acreage and risk into homogeneous groups (areas) according to productivity based on soil capabilities, actual yields and other factors or combination of factors available to the Risk Management Specialist that best measures actual or relative land productivity.

Rates are set according to risk of loss in identified areas of the county with the objective of collecting sufficient premiums to pay indemnities and accumulate a reserve over time. See also [5C High Risk Land Rate Classification/Climatic Conditions and Microclimates].

6B **Reasons for identifying an area(s) within a county as unclassified/unrated**

B(1) **Coverage will not be provided** for areas not considered suitable for production of the commodity being insured.

(1)(a) Noncropland (i.e., NRCS Class VIII rating or severe limitations make them unsuitable for production of the insured crops, parks, military reservations, etc) where it is felt they need to be identified.

(1)(b) Land that is uninsurable or has uninsurable causes of loss based on the policy (i.e., subject to backup/contained water/flood easements, stripmines, reclaimed land, etc.).

(1)(c) Classes of soils identified by NRCS whose severe limitations make them unsuitable for crop production.

B(2) **Soils and/or climate are not considered suitable for production** of the commodity being insured due to factors such as productivity, moisture availability, growing season restrictions.

(2)(a) The risk of growing the insured crop in this area is so great and/or uncertain that a sound insurance program cannot be operated.

(2)(b) The land and/or risk factors in question have so much variation within these areas that rating on an area basis is not possible. The risks are so "variable" that the crop cannot be pre-rated on a map and must be individually rated by Written Agreement, FCI-33 Legal Descriptor or FCI-33 Supplement.

(2)(c) Land along major rivers and islands that are farmed only during year's when water levels are low.

(2)(d) Cropland that has risks so "frequent and/or severe" that actuarially sound rates cannot be determined.

(2)(e) Areas with no history of producing the crop to show adaptability, such as perennials in a county with numerous microclimates.

(2)(f) Deep, excessively drained, very rapidly permeable soils.

(2)(g) Other factors such as disease problems.

B(3) **Insurance availability would encourage cropping patterns with limited yield potential and/or high risk in certain areas of a county** or is inconsistent with recommended conservation methods.

(3)(a) The county contains numerous microclimates or areas where the growing season is limited or inadequate to produce the crop/type.

1 The climatic conditions, length of growing season, Growing Degree Days (GDD), risk of frost and/or freeze are so common in the area or micro climate that the success in growing the crop (or lack of data) may be so infrequent that it cannot be determined that the crop is adapted to the area.

2 The crop is normally harvested before maturity for hay or silage in this area within a county.

a Corn is traditionally harvested for silage and grain is limited to years with extended growing season (more Growing Degree Days) or higher precipitation.

b Oats are traditionally harvested as hay due to limited growing season (lack of GDD's) or where conditions during the growing season are generally hot and dry.

(3)(c) The crop type or practice would not allow sufficient time for required conservation practices.

The crop would be harvested so late in the growing season in these areas that a cover crop, required for conservation practices due to soil types in this area, could not be timely established, (sandhills area of a county marginally adapted to the crop, i.e., soybeans).

(3)(d) The crop/practices are grown/carried out on a very limited basis and only these areas have been identified as insurable.

6C Information needed to rate Unclassified/Unrated land

C(1) Requests with acceptable production history, preferably a minimum of four years, of the crop/type/practice.

C(2) Accumulated data from written agreement experience to indicate applicability.

C(3) New varieties-disease resistance, early maturation, etc.

C(4) Recommendations from University Extension, NRCS, and FSA based upon NAP experience.

C(5) Specific information on any land improvements, (i.e., elevation of levee above sea level, means to remove water from inside levees, pumping capacities, etc.,).

C(6) Aerial photograph with field boundaries clearly identified.

C(7) Soil information from sources such as the Natural Resource and Conservation Service.

C(8) Plant growth models identifying water use requirements and efficiency.

6D Methods of Insurance for Unclassified/Unrated land

D(1) **If the applicable information requirements of C above are met.**

If the information reviewed can be used by the RMA RO to develop an actuarial sound premium rate and coverage under existing terms of the policy, the RO can offer insurance on Unclassified/Unrated land by the following methods:

(1)(a) Written agreement.

(1)(b) Modification of FCI-32, FCI-33 Map, FCI-33 Legal Descriptor, or FCI-33 Supplement.

Reserved

CLASSIFICATION STANDARDS HANDBOOK

EXHIBITS

EXHIBIT 1

ADJUSTING TRANSITIONAL YIELDS FOR HIGH-RISK LAND

	Acres	Yield	Extension
Standard Risk	30,000 50,000 20,000 20,000	140 125 115 100	4,200,000 6,250,000 2,300,000 2,000,000
High Risk	10,000 5,000	40 30	400,000 150,000

Total Extension Std. & High Risk		Total Acres Std. & High Risk		Representative of County
15,300,000	÷	135,000	=	113.3

Total Extension High Risk		Total Acres High Risk		High Risk
550,000	÷	15,000	=	36.7

High Risk		Representative of County		Yield Factor
36.7 (HRY)	÷	113.3 (CAY)	=	.32 (F)

(F) Yield Factor		County Average "T" Yield		Adjusted T-Yield for the High-Risk Area
.32	X	95	=	30

Reserved

EXHIBIT 2

UNDERWRITING GUIDE FORMAT

SUBJECT:

BACKGROUND:

DETERMINATION:

IMPLEMENTATION:

Reserved

EXHIBIT 3

Flood Plain Characteristics And Rating Implications

Type 1

Characteristics:
The profile is typical of smaller streams at the beginning of watersheds. It may also describe larger rivers in mountainous areas depending on the type of existing parent material. Flood plain development and agricultural use are minimal. Slopes, lack of tillable land, low productivity are limitations.

Rating Implications included with surrounding insurable land:
There are minimal rating implications due to the absence of insurable land. These profiles are usually assigned standard class rates. Or, they may be included with exceptional rate classifications assigned to larger associated flood plains.

Type 2

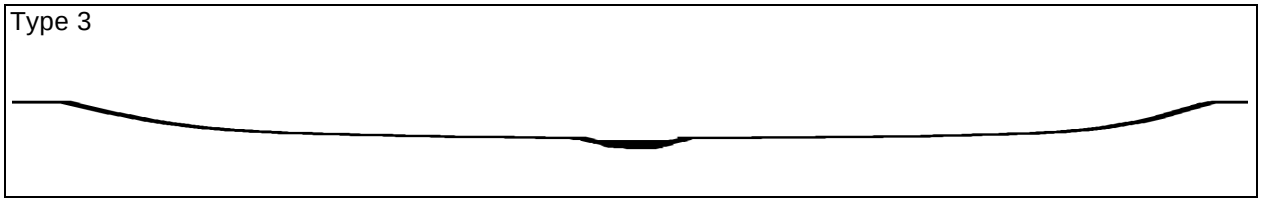
Characteristics:
Type 1 profiles generally evolve into Type 2 profiles. Slope of the flood plain is steep (B and C slopes). A more or less constant slope exists between flood plain boundaries and the river. Acreage becomes tillable depending on the suitability of soil types although much remains in woodland or pasture. There are relatively few fields with uniform land elevations. Floodwater drainage is usually rapid. However, water speed will produce immediate damage by scouring or laying the crop down.

Rating Implications:
The uniformity of profile slope toward the river suggests class average rating is appropriate.

Type 3

Characteristics:
The flood plain has fully developed and is generally surrounded by rolling land. Soil types are often derived from a mixture of alluvial and colluvial deposits. Very little or no slope exists next to the river. There is very little or no observable development of primary and secondary flood plains. Slope increases dramatically at the flood plain boundary. This marked elevation increase is commonly referred to as a bluff line. Floodwater speed is slower. However, drainage away from the flood plain is also slower. Crop damage from extended submersion instead of water speed is typical. Damage from high water tables and poor internal soil drainage become more common.

Rating Implications:
Worst case rating is commonly used. Class average rating might be used depending on the degree of slope (more) and severity of historical discharge volume (less) in the primary flood zone.

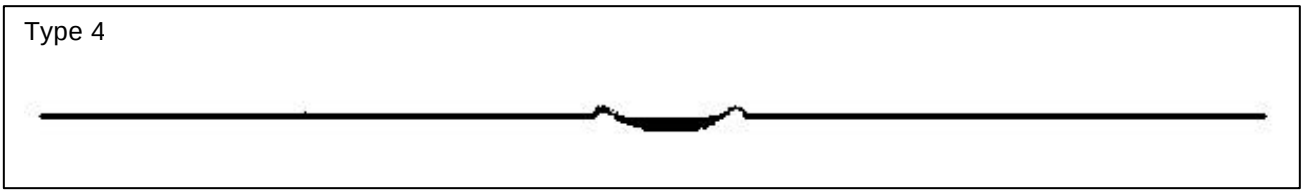


Type 4

Characteristics:
This profile exists in two forms. It may be part of a Type 3 profile in larger flood plains along major rivers or it may be common in regions with predominately flat terrain such as the Midwest. There is very little variation in slope. No distinction of variable flood risk within the profile can reasonably be made. On a flat terrain, that would normally be a small creek or river may produce floods of impressive proportions even after moderate rainfall because extent is not confined by land elevation. Smaller Type 4 profiles are often more frequently flooded than similar profiles along major rivers due to the greater influence of local weather. Flood timing and its variable relationship to crop damage become important rating considerations. The effects of Type 4 profile flooding a crop along major rivers is almost always catastrophic regardless of timing during the growing season.

Rating Implications:

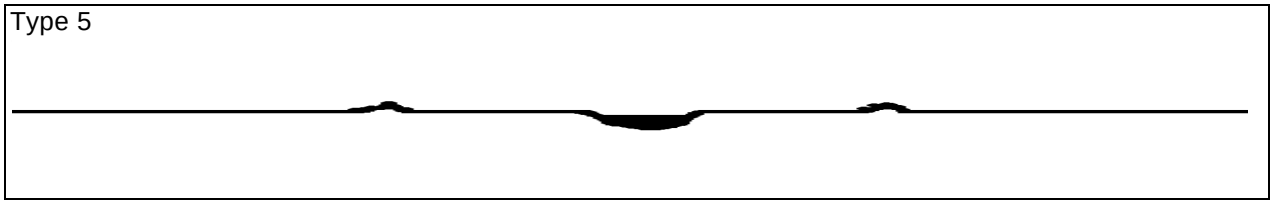
Worst case rating is used.



Type 5

Characteristics:
A Type 5 profile is a Type 4 profile with some minimal flood abatement measures. These measures may include piled dirt field boundaries, non-Corps specification levees, and passive drainage ditches. Flood abatement measures may have anywhere from no effect on flood frequency to legitimate flood prevention depending on many other land characteristics. Abatement measures may also work to increase potential crop damage from excessive moisture and poor drainage. Drainage of water runoff from adjacent uplands or direct flooding may become increasingly difficult.

Rating Implications:
Rating may become dependent on the quality of flood abatement measures. The entire flood plain may be worst case rated, only that acreage between flood abatement measures and the river may be worst case rated. Or, a combination of worst case and class average rating may be appropriate.



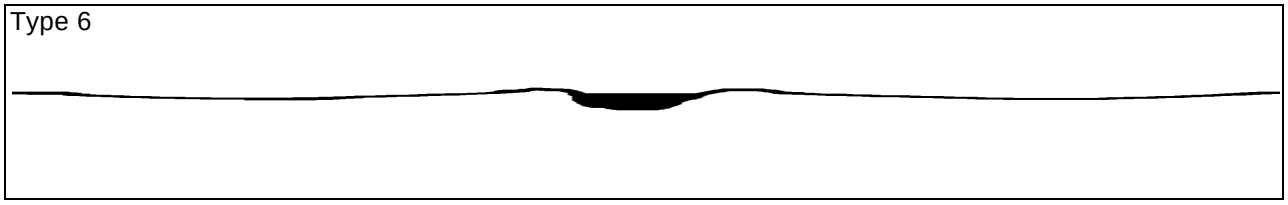
Type 6

Characteristics:

This profile may be found along older river channels that have changed course over time. Land elevation for some portions of the flood plain is at or even below the current river channel. When flooding occurs, lower elevations away from the river are inundated and unable to drain back into the river as water recedes.

Flood damage away from the river may actually be more severe than on land adjacent to the river. Direct overflow and normal runoff from surrounding land may create severe drainage limitations.

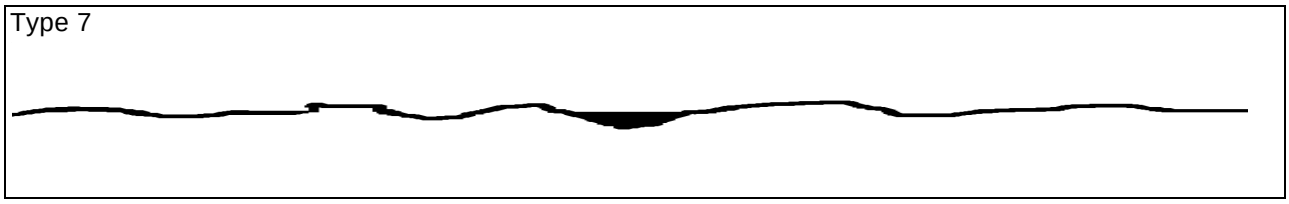
Rating Implications:
Worst case rating is applicable. There may be unusual situations where worst case rating applies to depressional areas while class average or standard rating is reasonable for land closer to the river.



Type 7

Characteristics:
This irregular profile is usually produced by variation of parent material within the flood plain. Parent materials subject to differing rates of erosion and older colluvial or glacial deposits contribute to the 'washboard' appearance of this profile. Potential flood damage on associated farmland is highly variable. There may be knolls in the flood plain that do not flood aside depressional areas similar to a Type 6 profile.

Rating Implications:
Appropriate rating methods are dependent on the distribution and size of farmed fields within the flood plain. If only those areas not subject to flood are farmed, standard rating may be used. If fields are large with continuous mono-cropping across the flood plain, class average rating may be used. If only small fields in lower areas are farmed, worst case rating is used.

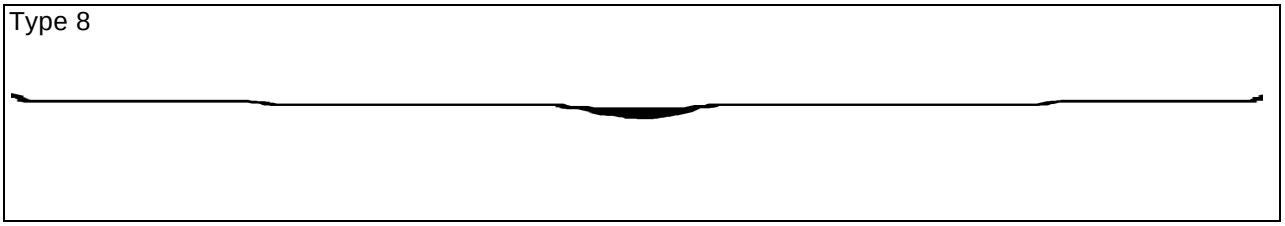


Type 8

Characteristics:
A Type 8 profile is similar to a Type 4 profile. The difference is a Type 4 profile is beginning to show development of primary and secondary flood plains. It is often not possible to physically distinguish between them for rating purposes.

Rating Implications:

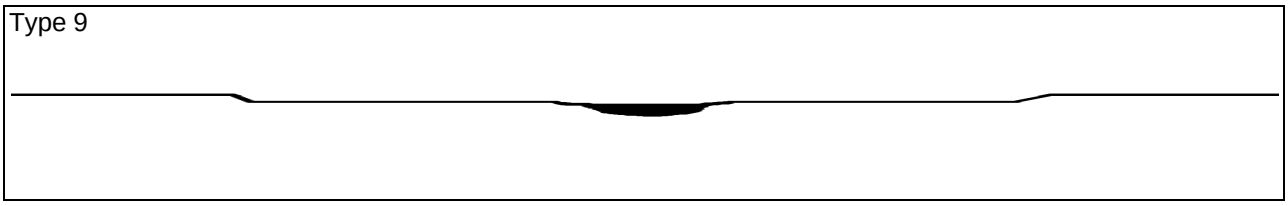
Average class or worst case may be appropriate depending on the distribution and slope of land in each flood plain.



Type 9

Characteristics:
Type 9 profiles have extensive primary and secondary flood plain development. It is possible to separate land for rating purposes.

Rating Implications:
Generally, average class rating is applied to secondary flood plains due to lower risk and increasing slope. Worst case is appropriate for primary flood plains depending on the extent and quality of flood control structures.



Type 10

Characteristics:
A Type 10 profile may have characteristics similar to any other type of flood plain. The difference is presence of a substantial flood control structure on one side of the flood plain. In this case, the levee may be a Corps Specification levee that is privately owned. Existence of the structure may decrease risk behind the levee; however, severity of flooding on the river side of the structure is general increased. This is because constriction of the flood plain forces water to move faster and spread out further on the opposite side of the river.

Rating Implications:
Land behind the levee may be assigned standard or average class ratings depending on the quality of the levee, seep potential, susceptibility of soil types to excessive moisture damage, and drainage limitations. Worst case rating is generally applicable to land between the river and the levee and land on the opposite side of the river.

Type 11

Characteristics:
This profile is characteristic of the largest rivers. Corps Specification or better levees on each side of the river define the flood plain. Construction of the levees is substantial and failure is not expected even under severe conditions. Breaching does occur although not generally more often than every twenty-five to fifty years.

Rating Implications:
Land behind the levee may be assigned standard or average class ratings depending on the quality of the levee, seep potential, susceptibility of soil types to excessive moisture damage, and drainage limitations. Worst case rating is applicable to land between the river and the levees.

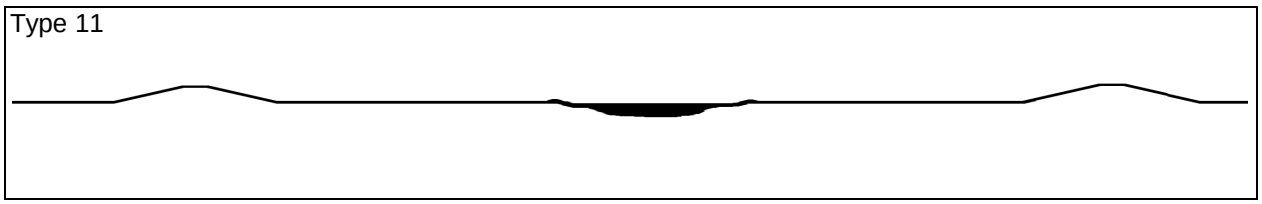


EXHIBIT 4

Reference To Actuarial Structures

Almost all actuarial structures in use to classify risk and assign premium rates have their basis in the assumption that productivity and risk are related. As productivity increases, risk and its associated premium rate decrease. General types of structures include:

Single risk classification: This actuarial structure is generally established in counties with limited crop acreage and potential risk variation among insureds. A single class rate applies to all insured acreage. An example might be an apple program in a predominately flat county with 100 potential acres. A low number of insureds and a lack of evident risk variation suggest a county-wide rate is the most appropriate structure.

Multiple risk classifications: Continuous rating methods, and producer listing yield classifications, farm yield groupings, soil productivity groupings, and practice-type-variety groupings. The basic underwriting concept of multi-class rating is to account for variable risk exposure. Use of multi-class structures makes it is possible to attract a better risk with lower premiums while continuing to adequately rate for the higher risk. If this approach is successful, rates may be reduced thereby attracting more business. In a county with many acres of a crop, the relationship between risk and productivity generally holds true although other program features or the presence of exceptional risk may work to degrade the actual relationship. In a county with limited crop acreage, this relationship may not exist. Over- or under-rating of all multiple risk classifications is possible if they are not systematically reviewed.

Exceptional or High Risk Classification: The actuarial structure for exceptional risk is simply an extension of single or multi-class rating. Almost all perils and associated losses have a random occurrence in a county. For example, hail may damage crop production on 100 acres in part of a county; however, future recurrence on the same location is unknown and unpredictable. This type of random loss, which may happen at any location, is the basis of a county average rate shared by all insurance participants. The exceptional risk does not exhibit random loss behavior. Exceptional risk is the expectation of repetitious loss from one or more perils in a definable location. The best example of exceptional risk for crop and other lines of property insurance is flood. Flood occurs within the physical bounds of a flood plain. It is a measurable peril with historical frequency that is expected to continue into the future. Other perils also exhibit this tendency toward repetitious loss due to the natural limitations of certain soils. These characteristics such as aluminum toxicity, poor drainage, sand content, land degradation, or high water table often mimic or exacerbate the effects of a weather related peril.

Price coverage plans (RA, CRC, IP, etc.) and Group Risk Plan coverage also have a revenue factor that must be considered along with yield components in determining risk.

EXHIBIT (5)

SPANS USED FOR TOBACCO

TOBACCO		TYPE 21		TYPE 37	
1	1 - 900	1	1 - 100	1	1 - 100
2	901 - 1000	2	101 - 150	2	101 - 150
3	1001 - 1100	3	151 - 200	3	151 - 200
4	1101 - 1200	4	201 - 250	4	201 - 250
5	1201 - 1300	5	251 - 300	5	251 - 300
6	1301 - 1400	6	301 - 350	6	301 - 350
7	1401 - 1500	7	351 - 400	7	351 - 400
8	1501 - 1600	8	401 - 450	8	401 - 450
9	1601 - 1700	9	451 - 500	9	451 - 500
10	1701 - 1800	10	501 - 600	10	501 - 600
11	1801 - 1900	11	601 - 700	11	601 - 700
12	1901 - 2000	12	701 - 800	12	701 - 800
13	2001 - 2100	13	801 - 900	13	801 - 900
14	2101 - 2200	14	901 - 1000	14	901 - 1000
15	2201 - 2300	15	1001 - 1100	15	1001 - 1100
16	2301 - 2400	16	1101 - 1200	16	1101 - 1200
17	2401 - 2500	17	1201 - 1300	17	1201 - 1300
18	2501 - 2600	18	1301 - 1400	18	1301 - 1400
19	2601 - 2700	19	1401 - 1500	19	1401 - 1500
20	2701 - 2800	20	1501 - 1600	20	1501 - 1600
21	2801 - 2900	21	1601 - 1700	21	1601 - 1700
22	2901 - 3000	22	1701 - 1800	22	1701 - 1800
23	3001 - 3100	23	1801 - 1900	23	1801 - 1900
24	3101 - 3200	24	1901 - 2000	24	1901 - 2000
25	3201 +	25	2001 +	25	2001 - 2100
				26	2101 - 2200
				27	2201 - 2300
				28	2301 - 2400
				29	2401 - 2500
				30	2501 +