United States
Department of Agriculture

AVOCADO AND
Federal Crop
Insurance
Corporation


LOSS


Product
Development Division

FCIC 25630
 HANDBOOK

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## PART 1 GENERAL

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AVOCADO AND MANGO TREE LOSS ADJUSTMENT STANDARDS HANDBOOK
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(RESERVED)

# U.S. DEPARTMENT OF AGRICULTURE <br> WASHINGTON, D.C. 20250 

| FEDERAL CROP INSURANCE HANDBOOK |  | NUMBER: <br> 25630 |
| :---: | :--- | :--- |
| SUBJECT: | DATE: November 5, 1997 |  |
| AVOCADO AND MANGO TREE | OPI: Product Development Division |  |
| LOSS ADJUSTMENT STANDARDS HANDBOOK | Effective for 1998 and Succeeding Crop Years | APPROVED: <br> /s/ Tim Hoffmann for Tim B. Witt <br> Deputy Administrator, Research and Development |

## PART 1 GENERAL

## 1 PURPOSE

This handbook identifies the crop specific standards (requirements) for adjusting Multiple Peril Crop Insurance (MPCI) Avocado and Mango Tree losses in a uniform and timely manner. These standards, which include crop appraisal methods and claims completion instruction, supplement the general (not crop specific) standards for loss adjustment identified in the Loss Adjustment Manual (LAM) (often referred to as LAM or M8-LAM in this and other directives).

## 2 SPECIAL INSTRUCTIONS

A Initial Loss Adjustment Standards
This is the initial loss adjustment standards handbook for Avocado and Mango Trees. This standards handbook remains in effect until superseded. The issuance of an entire handbook will replace a previous handbook; handbook amendments or bulletins may supersede parts of a handbook.

B General Provisions not Applicable to Catastrophic Risk Protection (CAT)
These general provisions do not apply to CAT.
(1) Optional Units.
(2) Written Agreements.

## 3 OPERATING POLICY

A Insurance Providers. Insurance providers must use this handbook as a basis for developing any appropriate loss adjustment procedures and training consistent with the standards in this handbook. Insurance providers may find it necessary to provide additional internal guidelines or procedures for adjusting losses on their insurance contracts. Any additional guidelines or procedures will require FCIC approval unless otherwise provided in writing by FCIC.

B Specific Entry Standards. Where these standards are entry-specific to generic forms, insurance providers' forms and procedures are to comply with the standards in at least an equivalent manner.

## 4 ABBREVIATIONS

| CAT | Catastrophic Risk Protection Coverage |
| :--- | :--- |
| CIH | Crop Insurance Handbook |
| DYSO | Damage Occurring During the Calendar Year of Set Out |
| FCIC | Federal Crop Insurance Corporation |
| FYSO | Damage Occurring in any Calendar Year Following the Year of Set Out |
| GLAS | General Loss Adjustment Standards (also LAM) |
| LAM | Loss Adjustment Manual (also GLAS) |
| MPCI | Multiple Peril Crop Insurance |
| RMA | Risk Management Agency |
| RSO | Regional Service Office |
| USDA | United States Department of Agriculture |

## 5 FORMS AND PROCEDURES

A Insurance Providers. Insurance providers are to use FCIC-approved standard procedures in developing procedures, training, forms and completion instructions. All procedures, forms and completions instructions must be submitted for approval in accordance with the Submissions Standards Handbook.

B General Forms and Manuals. General forms and manuals (or their equivalent) necessary for loss adjustment are identified in the LAM.

C Distribution. Unless specified otherwise by the insurance provider, the following applies to the form(s) completed by the adjuster for the loss adjustment inspection: EXCEPTION: For unusual and/or controversial cases refer to the LAM.
(1) One legible copy to insured.
(2) One legible copy to the insurance provider.
(3) Original copy to the contract file folder.

## 6 DEFINITIONS

A General Terms and Definitions. General (not crop-specific) terms and definitions relevant to loss adjustment are identified in the LAM.

B Specific Terms and Definitions. Terms and definitions specific to Avocado and Mango Tree loss adjustment and this handbook, which are not defined in this section, are identified as they appear in the text.

Canopy All of the three-dimensional space occupied by the above-ground structural parts of the tree except the leaves.

Deductible
The amount determined by subtracting the coverage level selected from 100 percent.

Destroyed

Maximum
Reference Price

Replacement
Trees

Scaffold Limb

Set out

Special Report
Toppled
Unit Value

A tree damaged to the extent that removal is necessary.
The price listed on the actuarial table used in calculating unit value.

Trees set out in existing groves to replace trees that are no longer productive or that have been destroyed.

A major limb attached directly to the trunk.
Transplanting a tree into the grove or grafting new buds on to existing trees.

A form used to record facts.

A tree that is leaning and in danger of falling.
Unless otherwise specified on the Actuarial Table, the amount determined by multiplying the number of insurable trees in the unit on the day before the loss by the appropriate maximum reference price per tree listed in the Actuarial Table by the coverage level selected and multiplying this product by the insured's share.

## 7 RESPONSIBILITIES

## A FCIC Product Development Division:

(1) Establish the minimum standards and guidelines for loss adjustment.
(2) Unless otherwise specified, review and approve all insurance provider loss adjustment procedures and forms prior to their use.
(3) Provide guidance and clarifications, as needed, regarding these standards.

B Insurance Providers:
(1) Comply with and implement the loss adjustment standards (requirements) established by FCIC, through procedures and forms approved by the Product Development Division, or as otherwise specified in writing by FCIC.
(2) Ensure that all documentation, determinations and calculations are completed as specified in these standards.
(3) Provide input to FCIC regarding the loss adjustment standards
(4) Advise FCIC of impending situations which may necessitate the development of procedures, forms or calculations that are different than those identified in the standards issued by FCIC.
(5) Comply with other requirements issued by FCIC in the administration of contracts between the insurance provider and FCIC.
(6) Ensure that the required information is provided on the specific forms, printouts, or on a Special Report attached to the appropriate form, specified in approved standards and procedures.
(7) In addition to the responsibilities identified in the LAM, determine whether contract provisions or requirements for Avocado and Mango Trees apply to the insured, and if so, whether they have been complied with by the insured.

## 8 (RESERVED)

## 9 (RESERVED)

(RESERVED)
(RESERVED)

## PART 2 AVOCADO AND MANGO TREE APPRAISALS

## GENERAL APPRAISAL STANDARDS

These instructions provide standards for counting the number of insurable trees, verifying tree stage and determining unit value. This procedure also includes instructions for sample selection, and instructions for the appraisal methods. The appraisal methods are for damage occurring to trees:
! During the Calendar Year of Set Out (DYSO); and
! In Any Calendar Year Following the Year of Set Out (FYSO).
Note: The Reference Canopy Volume is used only with the FYSO method.
A Scheduling Determinations
Determine, within 10 days of the notice of loss, the following:
(1) number of insurable trees in the unit;
(2) tree stage (verify with the acreage report);
(3) unit value;
(4) reference canopy volume (if the grove contains damaged trees past the year of set out);
(5) unit percent of damage, if it can be determined at that time. The percent of damage is determined at the earlier of:
(a) one hundred percent destruction of the trees; or
(b) the end of the insurance period. If the amount of damage cannot be determined until after the insurance period, it will be determined not later than six months after the damage occurred.

NOTE: If the insured intends to file a claim for indemnity the damaged trees must not be pruned, buckhorned, removed or replaced until the unit has been inspected or 10 days after the notice of loss.

B Verifying Units and Share
A unit is ALL insurable trees of each crop listed on the application in the county in which the insured has a share on the date coverage begins for the crop year.

Note: The crop provisions definition of share excludes any operator or tenant interest.

Count the number of INSURABLE trees in the unit using the following information.
(1) Include, in the tree count, all insurable trees and trees damaged by an insured cause after insurance attached for the crop year.
(2) Exclude, from the tree count:
(a) any skips, other trees of a different citrus or tropical fruit crop, trees that were dead before insurance attached and
(b) any trees for which insurance did not attach. Trees which are NOT insurable include trees that, at the time insurance attached:

1 have been grafted within a one-year period before the date insurance attached;
$\underline{2}$ are unsound, diseased, or unhealthy;
$\underline{3}$ no longer have the potential to produce at least 70 percent of the expected yield for the trees, unless such trees have been buckhorned within three years;

4 are toppled*;
5 are grown on acreage specified in the County Actuarial Table as uninsurable for a specific peril, or

6 were damaged before insurance attached and do not qualify for stage 1.
*Note: If a tree is toppled due to an insured cause and the insured elects to reset the tree, insurance will not attach for twelve months following reset. A toppled tree must be reset as nearly as possible to the position occupied before it was toppled and then buckhorned.

D Verifying Stage
(1) Use the tree-classification system, in the following table, to verify stage for the unit and determining the appropriate maximum reference price (MAX REF PRICE) per tree for the crop. Stage is used to determine unit value ONLY.

| IF, at the time insurance attached, the greatest number of <br> insurable trees in the unit are trees that... | THEN determine the <br> unit stage as... |
| :--- | :--- |
| are less than one year from having been set out or buckhorned | Stage I. |
| no longer qualify as Stage I, but do not yet qualify as Stage <br> III | Stage II. |
| are able to produce at least seventy percent (70\%) of the <br> expected yield for mature and healthy trees of the insured <br> crop. | Stage III. See D(2) <br> below for stage <br> qualifications. |

(2) Qualifying trees as "Stage III."
(a) In NO event may avocado or mango trees qualify for "Stage III" until the second crop year after set out or grafting.

Example: 1998 Crop Year

| If set out in the crop year of... | Consider avocado and <br> mango trees as... |
| :--- | :--- |
| Nov. 16,1997 through Nov. 15,1998 | Stage I |
| Nov. 16,1996 through Nov. 15,1997 | Stage II |
| Nov. 16,1995 through Nov. 15,1996 | Stage III |
| Nov. 16, 1994 through Nov. 15, 1995 |  |
| Nov. 16,1993 through Nov. 15,1994 |  |

(b) If, at any time, the tree has been buckhorned (see Definitions), a tree may not qualify for "Stage III" until the third crop year after buckhorning.

Example: 1998 Crop Year

| If buckhorned in the crop year of... | Consider an avocado or <br> mango tree as... |
| :--- | :--- |
| Nov. 16,1997 through Nov. 15,1998 | Stage I |
| Nov. 16,1996 through Nov. 15,1997 | Stage II |
| Nov. 16, 1995 through Nov. 15,1996 | Stage II |
| Nov. 16, 1994 through Nov. 15, 1995 | Stage III |
| Nov. 16, 1993 through Nov. 15, 1994 |  |
| Nov. 16, 1992 through Nov. 15,1993 |  |

## E Determining Unit Value

Use the steps below, unless otherwise specified on the County Actuarial Table. Unit Value is the amount determined by multiplying:
(1) the number of insurable trees counted (subsection 10C) in the unit on the day before the loss (damage occurred) by;
(2)
the appropriate maximum reference price (MAX REF PRICE) per tree for the stage (subsection 10D) listed in the County Actuarial Table by;

Note: For CAT coverage the maximum reference price (MAX REF PRICE) is equal to 60 percent of the maximum reference price (MAX REF PRICE) for the appropriate stage.
the coverage level the insured selected by;
(4) the insured's share (always 1.000).
(5) Calculate unit value at the catastrophic level of protection by multiplying:

Number of insurable trees $X$ maximum reference price (MAX REF PRICE) for the stage X . 60 (price election percent for CAT) X . 50 (coverage level for CAT) X share (always 1.00) $=$ Unit Value

## F Recording Determinations

(1) Use Part III of the appraisal form to record the following determinations if the unit percent of damage and the claim for indemnity are to be deferred. Record the:
(a) total number of insurable trees (item 38);
(b) number of uninsurable trees (item 52);
(c) number of trees damaged by uninsured causes (item 53);
(d) stage (for the unit) (item 54) and unit value (item 56);
(2) Obtain the insured's signature on the appraisal form.
(3) Identify, on a map, or the appraisal form, the starting point of the tree count for each grove in the unit (e.g., Tree Count began going north, starting at the southernmost row of the SW corner of grove No. 2 on Homeland Road.).

## G $\quad$ Revising Unit Premium

If the amount of protection selected by the insured is greater than the unit value determined at the time of loss (damaged occurred), determine if the excess premium for that crop year is greater than 10 percent of the unit premium and at least 100 dollars. Revise the acreage report to reduce the premium.

Note: At no time after the damage has occurred can the amount of protection be increased, regardless of the unit values. Exceptions are:
if the insured plants trees on new acreage; or
if the claim for indemnity has been settled prior to the end of the crop year, inform the insured that he/she may purchase an additional amount of protection to provide coverage for the remainder of the crop year for any replacement trees, or trees that are to be buckhorned.

## H Verifying Maximum Amount Payable Within Any Crop Year

The maximum amount payable for multiple losses occurring to a unit within any crop year will not exceed the amount of protection, as defined in the policy.

## 11 SAMPLE SELECTION STANDARDS

These instructions provide standards for selecting sample trees for appraisal. Tree sampling must be done separately for each appraisal method. Account for ALL insurable damage by examining the sample trees selected.

A Determine the approximate number of insurable trees in the unit for each appraisal method.
B Select the recommended minimum number of sample trees as follows:

| IF the unit has... | SAMPLE... | BY Selecting... |
| :--- | :--- | :--- |
| 7,500 trees or less for the appraisal <br> method | $10 \%$ of the trees | every 10th tree from <br> each row. |
| 7,501 thru 15,000 trees for the <br> appraisal method | $5 \%$ of the trees | every 4th tree from <br> every 5th row. |
| 15,001 trees and over for the appraisal <br> method | $1 \%$ of the trees | every 10th tree from <br> every 10th row. |

Use of fewer than the percentages above must be explained on the appraisal form.
C Locate the first insurable tree on the outside row for the appraisal method; this will be the first sample tree. Proceed along each row counting ONLY insurable trees for the appraisal method. Select sample trees from the designated rows based on the number of trees for the appraisal method.

Note: Exclude, from tree count or as a selected sample tree, such trees described in subsection 10C, Counting The Number of Insurable Trees.

D Proceed down the next row in the opposite direction. Continue counting and appraising sample trees until the entire unit has been covered.

E Make ALL determinations for the appraisal method as required in section 12.
F When determining the reference canopy volume and the reduction in canopy volume for the FYSO appraisal method, if the grove contains trees of significantly different canopy sizes before the loss occurred, split the grove into subplots of
trees and appraise each subplot separately. If a grove or subplot contains interset trees of the same crop of significantly different canopy sizes, sample the same proportion of various canopy sizes for the reference canopy volume and appraisal of reduction in canopy volume appraisal method. In cases of proportional sampling, selection of trees at set intervals may not be possible.

G When determining the reference canopy volume and reduction in canopy volume for the FYSO appraisal method, split the recommended minimum number of sample trees in onehalf for each method. For example, if 10 percent is the recommended minimum number of sample trees, 5 percent would be used to establish the reference canopy volume and 5 percent would be used to determine the reduction in canopy volume for the FYSO appraisal method.

H If a tree is selected to be measured for reference canopy volume, the same tree may be selected as a sample tree when appraising the reduction in canopy volume for trees in FYSO.

I Document the trees and subplots (if used) appraised for the various appraisal methods.

## 12 APPRAISAL METHODS

These instructions provide standard instructions for determining percent of damage to avocado and mango trees utilizing two appraisal methods. If a damaged unit consists of of both set out and older trees, both methods must be completed to establish the average percent of damage for the unit, even if it is determined that there is no damage in one of the methods.

The sequence of applying the appraisal methods is:
C Establish the reference canopy volume--this is to be done on the first visit to the grove if the grove contains damaged trees that are in any calendar year after set out.

C Determine the Damage Occurring During the Calendar Year of Set Out
C Appraise the Reduction in Canopy Volume
A Establishing the reference canopy volume of FYSO trees.
(1) Determine the height of each sample tree selected by measuring from the ground to the top of the canopy.

Note: Use a measuring tape or a collapsible pole calibrated in feet and inches to measure. A collapsible pole can be made using PVC pipe. Mark the pole in feet and inches.
(2) Determine the east-west width of each sample tree by measuring from one edge of the canopy to the opposite canopy edge.
(3) Determine the north-south width of each sample tree by measuring from one edge of the canopy to the opposite canopy edge.

Compute the average of the two widths. Round to the nearest one-half foot.
Use the table in Exhibit 1 to determine the canopy volume. Height is measured on the vertical axis. The horizontal axis lists the average of the east-west and northsouth widths. The canopy volume is given by the intersection of these two values.
(6) Use Part I of the appraisal form to record appraisal determinations for this appraisal method.

## B Determining Damage Occurring During the Calendar Year of Set Out (DYSO)

Use the following steps for measuring and appraising the percent of damage for trees damaged during the year of set out.
(1) Appraising Percent of Damage to "Live" Wood
(a) Use a measuring tape calibrated in inches to measure the amount of "Live" wood (on the trunk only) above the bud union.
(b) Measure the distance from bud union to the beginning of the "Live" wood. This is the greatest distance (up the trunk only) where live wood is found.
(c) Determine the percent of damage as follows:

| IF the selected sample tree has... | THEN percent of damage is... |
| :--- | :--- |
| no "Live" wood above the bud union <br> or is toppled | $100 \%$ |
| less than eight inches of "Live" wood <br> above the bud union | $80 \%$ |
| eight inches or more of "Live" wood <br> above the bud union | $0 \%$ |

(2) Recording Determinations

Use Part II of the appraisal form to record appraisal determinations for this appraisal method.

## C Determining Damage Occurring in Any Calendar Year Following the Year of Set Out (FYSO)

Use the following steps for measuring and appraising the percent of damage to "Live" wood above the bud union and reduction in canopy volume in any year following the year of set out. Begin sample selection for this method on an outside row different from the one used to establish the reference canopy volume.
(1) Appraising Percent of Damage to "Live" Wood
(a) Inspect the trunk of the tree above the bud union for "Live" wood.
(b) Determine the percent of damage as follows:

| IF the selected sample tree has... | THEN percent of damage is... |
| :--- | :--- |
| no "Live" wood above the bud <br> union or is toppled | $100 \%$ |

Appraising Percent of Damage for the Reduction in Canopy Volume
Complete the appraisal for reduction in canopy volume if the percent of damage to the sample tree is less than $100 \%$ and the tree has been pruned or buckhorned as follows:
(a) Determine the height of each sample tree selected by measuring from the ground to the top of the canopy. Round to the nearest one-half foot.
(b) Determine the east-west width of each sample tree by measuring from one edge of the canopy to the opposite canopy edge.
(c) Determine the north-south width of each sample tree by measuring from one edge of the canopy to the opposite canopy edge.
(d) Compute the average of the two widths. Round to the nearest one-half foot.
(e) Use Exhibit 1 to estimate the canopy volume after pruning or buckhorning. Round to the nearest one-half foot. The canopy volume is given by the intersection of height on the vertical axis and the average of the two widths on the horizontal axis.
(f) Calculate the $\%$ reduction in canopy volume for each sample tree. Use this formula:
reference canopy volume - canopy volume after pruning reference canopy volume

Round to the nearest whole percentage.
(g) Use Exhibit 2 to convert the \% reduction in canopy volume to its corresponding percentage of damage. Find the \% canopy reduction and record the percentage damage.

| IF the percentage <br> damage is... | THEN consider the tree as... |
| :--- | :--- |
| $80 \%$ or greater | $100 \%$ damaged |
| less than $80 \%$ | the actual percentage damage |

(3)

Recording Determinations

Use Part III of the appraisal form to record appraisal determinations for this appraisal method.

## 13 APPRAISAL FORM ENTRIES AND COMPLETION STANDARDS

A General Information
(1) The avocado and mango tree appraisal forms herein contain the required standard items and entries for documenting appraisals. Insurance provider avocado and mango appraisal forms must contain at least the required standard items.
(2) Standard items and information requirements in this section correspond with the standard appraisal form and continuation sheet for avocado and mango trees.

B Standard Appraisal Form Instructions
(1) Prepare original and one copy. Separate appraisal forms are required for each unit inspected.
(2) Most percent entries are entered as 3-place decimals (e.g., $79.4 \%$ is entered as $.794 ; 100 \%$ is entered as 1.000 ).

C Appraisal Form Standard Items and Information Required

## HEADING

## Standard Items

1 Insured's Name

2 Policy Number
3 County
4 Unit Number
5 Crop Name
6 Crop Year

## Information Required

Name of Insured that identifies exactly the person (legal entity) to whom the policy is issued.

Insured's assigned Policy Number.
Name of the County in which the trees are insured.
Five-digit Unit Number from the acreage report.
The Crop Name from the County Actuarial Table.
A four-position number that indicates the Crop Year for which coverage is provided, and is designated by the calendar year in which the insurance period ends.

## PART I - REFERENCE CANOPY VOLUME

## Standard Items

7 Ref_Count
8 Height

9 E-W Width

10 N-S Width

11 Ave

12 Volume

13 Total Ref_Count

14 Total Volume

15 Reference Canopy Volume

## Information Required

Make ( $T$ ) for each sample tree.
Record the height of the tree measured from the ground to the top of the canopy. Round to the nearest one-half foot.

Record the east-west width of the tree. Round to the nearest one-half foot.

Record the north-south width of the tree. Round to the nearest onehalf foot.

Compute the average of the E-W Width (item 9) and the N-S Width (item 10) and enter the result. Round to the nearest one-half foot.

Record the volume given by the intersection of height and average width in Exhibit 1.

Enter the number of trees sampled to establish the reference canopy volume.

Enter the result of adding all of the recorded volumes. Enter the result to the nearest first decimal place.

Enter the result of dividing the Total Volume (item 14) by the total Ref_Count (item 13). Enter the result to the nearest first decimal place.

PART II - DAMAGE OCCURRING DURING THE CALENDAR YEAR OF SET OUT

## Standard Items

16 DYSO_Count
17 Sample
18 Damage

19 Total DYSO_Count

20 Total Damage

21 Total DYSO Sampled

22 DYS0 AVE \% Damage

## Information Required

Make a $(\mathrm{T})$ for each tree counted in the unit.
Make a ( T ) for each tree sampled in the unit.
Enter the appraised amount of damage. Only three valid entries are possible ( $0.0,0.8$ or 1.0).

Record the number of trees counted for the damage during year of set out appraisal method.

Enter the result of adding the damage of each tree sampled. Round to the nearest first decimal place.

Record the number of trees sampled for the damage during the year of set out appraisal method.

Result of dividing the Total Damage (item 20) by Total DYSO

Sampled (item 21). Round to nearest 3-place decimal.


A negative entry is possible. Round to the nearest whole percentage.
Example: $\underline{624.5-198.7}=68$
624.5

Enter 68 in item 29 of the appraisal worksheet.
30
\% Damage
Enter the value given in Exhibit 2 for the applicable \% Damage. If the damage is 80 percent or greater the tree will be considered 100 percent damaged. If the entry for item 29 is negative, enter 0 in item 30.

31 Total FYSO_Count

32 Total FYSO Sampled

33 Total \% Damage

34 FYSO Ave \% Damage

35 Complete FYSO \% Damage

Example: If the entry in item 29 of the appraisal worksheet is 68 , the entry for item 30 is 54.6 .

Record the Number Trees Counted FYSO. If a continuation sheet is used, transfer item 31 entries from the worksheet to the "Previous Total" item on the continuation sheet. Calculate the "Grand Total" on the continuation sheet by adding "Total" and "Previous Total" entries. Enter the result in "Grand Total" item.

Record the number of FYSO trees sampled. If a continuation sheet is used, transfer item 32 entries from the worksheet to the "Previous Total" item on the continuation sheet. Calculate the "Grand Total" on the continuation sheet by adding "Total" and "Previous Total" entries. Enter the result in "Grand Total" item.

Enter the result of adding the percent of damage. If a continuation sheet is used, transfer item 33 entries from the worksheet to the "Previous Total" item on the continuation sheet. Calculate the "Grand Total" on the continuation sheet by adding "Total" and "Previous Total" entries. Enter the result in "Grand Total" item. Round to the nearest first decimal.

The result of dividing the Total \% Damage (item 33) by the Total FYSO Sampled (item 32) and round to the nearest 3-place decimal. If continuation sheets are used DO NOT calculate a FYSO Ave \% of Damage for each page. The Grand Totals from the last continuation sheet will be used to calculate the FYSO Ave \% Damage.

Calculate this value only if the grove has been split into subplots and separate Damage Occurring in Any Year Following the Calendar Year of Set out Appraisals have been conducted on each subplot.

Calculate by summing the Weighted Ave \% Damage for each subplot. Document the calculations on a Special Reports form. For example, a grove was subdivided into three subplots:

| NO. OF FYSO <br> TREES <br> COUNTED | \% IN EACH <br> SUBPLOT | FYSO \% AVE <br> DAMAGE FOR EACH <br> SUBPLOT | RESULT |
| :---: | :---: | :---: | :---: |
| 30 | $.214(30 / 140)$ | .627 | $.134(.214 * .627)$ |
| 60 | $.429(60 / 140)$ | .716 | $.307(.429 * .716)$ |
| 50 | $.357(50 / 140)$ | .852 | $.304(.357 * .852)$ |
| 140 |  |  | .745 |

The value .745 would be entered in item 35 of the appraisal form. Express as a 3-place decimal.

| No. of Trees DYSO | Record the No. of Trees DYSO transferred from Part II Total DYSO_Count (item 19). |
| :---: | :---: |
| No. of Trees FYSO | Enter the No. of Trees FYSO transferred from Total FYSO_Count (item 31) if the unit HAS NOT been subdivided. If there is an entry in item 35 of the appraisal worksheet, enter the total number of FYSO trees counted for all subplots. |
| Total No. of Trees | Record the result of adding the No. of Trees DYSO (item 36) and No. of Trees FYSO (item 37). |
| \% DYSO | Record the result of dividing No. of Trees DYSO (item 36) by the Total No. of Trees (item 38). Round to the nearest 3-place decimal. |
| \% FYSO | Record the result of dividing the No. of Trees FYSO (item 37) by the Total No. of Trees (item 38). Round to the nearest 3-place decimal. |
| DYSO Ave \% Damage | Record the DYSO Ave \% Damage transferred from Part II DYSO Ave \% Damage (item 22). |
| FYSO Ave \% Damage | Record the FYSO Ave \% Damage transferred from FYSO Ave \% Damage (item 34), if the grove has not been subplotted. If there is an entry in Complete FYSO \% Damage (item 35) record the FYSO Ave \% Damage transferred from item 35. |
| \% Damage DYSO | Result of multiplying \% DYSO (item 39) by DYSO Ave \% Damage (item 41). Round to the nearest 3-place decimal. |
| \% Damage FYSO | Result of multiplying \% FYSO (item 40) by FYSO Ave \% Damage (item 42). Round to the nearest 3-place decimal. |
| \% Total Damage | Result of adding \% Damage DYSO (item 43) and \% Damage FYSO (item 44). If the unit sustains average damage of 80 percent of greater it will be considered 100 percent damaged. If the unit is $100 \%$ damaged enter 1.000 . Round to the nearest 3-place decimal. |
| \% Total Damage | Record the same value as entered in \% Total Damage (item 45). |
| Deductible | Record the amount determined by subtracting the coverage level from 100 percent. Express as a 3-place decimal. |

Example: $1.000-.650=.350$

Record the amount obtained by subtracting the percent deductible from the previous percent of loss. For example, if a previously sustained loss was 30 percent and the deductible was 25 percent, 5 percent of the damage was paid on. Express as a 3-place decimal.

50 Coverage Level \% Record the Coverage Level \% selected by the insured. Express as a 3-

49 Resul

51 Unit \% Damage

Enter the result of subtracting the deductible from the \% Total Damage AND subtracting the \% Damage Prev. Paid from the \% Total Damage. place decimal.

Example: $65 \%$ Coverage Level \% is . 650.
Record the result of dividing the previous result (item 49) by the Coverage Level \% (item 50). Express as a 3-place decimal.
NOTE: See section 18B for standards for using the Unit \% Damage" to calculate the "Net Dollar Amount of Loss."

52 No. of Uninsurable Trees

53 No. of Trees Damaged by Uninsured Causes

54 Stage

55 Amount of Selected Unit Protection

56 Unit Value

57 Insured's Signature

58 Adjuster's Code No. Adjuster enters his/her code number.
59 Adjuster Signature

Record the number of uninsurable trees counted on the unit.

Record the number of trees damaged by uninsured causes of loss.

Enter the stage for the unit after verifying that the Stage on the acreage report was reported correctly.

Record the amount of protection for the unit selected by the insured.

Record the unit value determined at the time of loss.

Obtain the insured's signature after reviewing all form entries with the insured.

Adjuster signs and dates the worksheet.




| AVOCADO AND MANGO TREE APPRAISAL WORKSHEET |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 INSURED'S NAME |  |  |  | 2 POLICY NUMBER |  |  | 3 COUNTY |  |  | 4 UNIT NUMBER |  | 5 CROP NAME |  | 6 CROP YEAR |  |
| PART III APPRAISAL METHOD--DAMAGE OCCURRING IN ANY YEAR FOLLOWING THE CALENDAR YEAR OF SET OUT (CONTINUATION SHEET) |  |  |  |  |  |  |  |  |  |  |  | 15 REFERENCE CANOPY VOLUME 624.5 |  |  |  |
| $\begin{gathered} 23 \\ \text { FYSO-} \\ \text { COUNT } \end{gathered}$ | 24 HEIGHT | $\begin{gathered} 25 \\ \text { E-W } \\ \text { WDTH } \end{gathered}$ | $\begin{gathered} 26 \\ \text { N-S } \\ \text { WIDTH } \end{gathered}$ | $\begin{gathered} 27 \\ \text { AVE } \end{gathered}$ | $\begin{gathered} 28 \\ \text { CANOPY } \end{gathered}$ | $\stackrel{29}{\% \text { RED }}$ | $\begin{gathered} 30 \\ \% \\ \text { DAMAGE } \end{gathered}$ | $\begin{gathered} 23 \\ \text { FYSO- } \\ \text { COUNT } \end{gathered}$ | $\begin{gathered} 24 \\ \text { HEIGHT } \end{gathered}$ | $\begin{gathered} 25 \\ \text { E-W } \\ \text { WIDTH } \end{gathered}$ | $\begin{gathered} 26 \\ \text { N-S } \\ \text { WIDTH } \end{gathered}$ | $\begin{gathered} 27 \\ \text { AVE } \end{gathered}$ | $\begin{gathered} 28 \\ \text { CANOPY } \end{gathered}$ | $\stackrel{29}{\%}$ | $\begin{gathered} 30 \\ \% \\ \text { DAMAGE } \end{gathered}$ |
| 41 T | 9.0 | 8.0 | 7.0 | 7.5 | 198.7 | 68 | 54.6 |  |  |  |  |  |  |  |  |
| 42 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 43 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 44 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 45 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 46 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 47 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 48 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 49 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 50 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 51 T | 8.0 | 6.5 | 7.0 | 7.0 | 153.9 | 75 | 63.7 |  |  |  |  |  |  |  |  |
| 52 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 53 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 54 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 55 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 56 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 57 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 58 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 59 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 60 T |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 31 TOTAL FYSO_COUNT |  |  | 20 | 32 TOTAL FYSO SAMPLED |  |  |  | 2 |  |  | 33 TOTAL \% DAMAGE |  |  |  | 118.3 |
| PREVIOUS TOTAL FYSO_COUNT |  |  | 40 | PREVIOUS TOTAL FYSO SAMPLED |  |  |  | 4 |  |  | PREVIOUS \% DAMAGE |  |  |  | 205.0 |
| GRAND TOTAL FYSO_COUNT |  |  | 60 | GRAND TOTAL FYSO SAMPLED |  |  |  | 6 |  |  | GRAND TOTAL \% DAMAGE |  |  |  | 323.3 |
| 34 FYSO AVE \% DAMAGE |  |  |  |  |  |  |  | . 539 |  |  |  |  |  |  |  |



14 APPRAISAL MODIFICATION AND DEVIATION STANDARDS
There are no established appraisal modifications or deviations in this handbook. Any modification or deviation in appraisal standards must have prior authorization from FCIC. See the LAM for additional information.

15 (RESERVED)

16 (RESERVED)
(RESERVED)
(RESERVED)

## PART 3 AVOCADO AND MANGO TREE CLAIMS

A Insurability
(1) Trees insured will be those:
(a) which have a premium rate quoted in the County Actuarial Table;
(b) grown in the county listed on the insured's application;
(c) in which the applicant has a share (amended to exclude any operator or tenant interest); and
(d) grown to produce fruit or juice for human consumption.
(2) Replacement trees and trees set out on new acreage are:
(a) trees set out in existing groves to replace trees that are no longer productive or that have been destroyed and are insurable upon set out; and
(b) trees set out on new acreage and are insurable upon set out.

Note: A revised acreage report is required if the insured wishes to increase the amount of protection for replacement trees or trees set out on new acreage.

## B Units with Eighty Percent or Greater Damage

Any unit that sustains average damage of 80 percent or greater damage (item 45 of PART III on the appraisal form) will be considered to be 100 percent damaged.

C Maximum Payable for Multiple Losses

The maximum payable for multiple losses occurring to a unit within any crop year will not exceed the amount of protection, as defined in the policy, that applies to the unit.

## 18 <br> CLAIM FORM ENTRIES AND COMPLETION STANDARDS

Generic Standard Item identifiers have been assigned to each required item. Insurance providers are to ensure that their claim form provides the same information consistent with the FCIC standards. Insurance providers may provide separate column, items, or entries for information which, by necessity, has been consolidated into a single column, item, or entry in this standard. Any difference in arrangement of insurance provider's
items or information is considered cosmetic and not substantive unless it adversely affects the calculations, or the legality or availability of the FCIC required information.

A Instructions
(1) The claim form is a progressive form containing all notices of damage for all preliminary and final inspections on a unit.
(2) If a claim form 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.
(3) Refer to the LAM for instructions regarding the following:
(a) Acreage report contains errors.
(b) For delayed notices and delayed claims.
(c) For corrected claims and cases involving concealment, misrepresentation, or litigation.
(e) Each "No Indemnity Due" claim must be verified by an APPRAISAL or NOTIFICATION from the insured.
(4) The adjuster is responsible for determining if any of the insured's requirements under the notice and claim provisions have not been met. If any have not, the adjuster should contact next level of supervision.

Instructions labeled "P" apply to preliminary inspections only.
(6) Instructions labeled "F" apply to final inspections only.
(7) Instructions not labeled apply to ALL inspections.
(8) If corrections on the original claim form are not legible, prepare a replacement claim form and void the original. Date, initial, and file the voided copy in the insured's folder.

## B Calculating the Net Dollar Amount of Loss

(1) In the Narrative calculate the Net Dollar Amount of Loss using the following formula:

Amount of Protection X Unit \% Damage $=$ Net Dollar Amount of Loss
(2) Transfer the result to item I (Intended or Final Use).

C Heading Information

Verify or Make the Following Entries

Item Number

1 Crop

2 Unit

3 Legal Description

4 Date of Damage

5 Cause of Damage

6 Primary Cause Percent

7 Company/ Agency

9 Claim Number

10 Policy Number

11
Crop Year

## Entry or Instruction

Enter the crop name and the crop code number as follows:

CROP
Avocado Trees
Mango Trees

CODE \#
0212
0214

Five-digit unit number from the acreage report after it is verified to be correct.

Section, township, and range number or other description that identifies the location of the unit.

P Enter the first three letters of the month during which MOST of the insured damage (including progressive damage) occurred for each preliminary inspection. Include the SPECIFIC DATE where applicable as in the case of freeze damage (e.g., DEC 11).

F Enter (under the FINAL heading) the first three letters of the month during which most of the insured damage occurred, and include the specific date when applicable; e.g., Dec. 11.

Primary insured cause of damage for each inspection (specific only to Avocado and Mango Trees) listed in the LAM. Note: The insured causes of loss are provided only against the stated causes of loss that occur within the insurance period.

P MAKE NO ENTRY.

F Enter the whole percent (always over $50 \%$ ) under the primary Cause of Damage for the unit in item 5. Enter an " $X$ " under the secondary Cause of Damage. If it is evident that no indemnity is due, enter "NONE"

Company name and Agency name.

Name of the insured that identifies exactly the person (legal entity) to whom the policy is issued.

Enter the claim number assigned by the insurance provider.

Insured's assigned policy number.

Crop year for which the claim is filed, as defined in the policy.

12 Additional Units
13 Estimated
Production Per
Acre

## 14 Date(s) Notice of P Loss

15 Companion
Policy(s)

MAKE NO ENTRY
MAKE NO ENTRY
a Enter the date the notice of damage was given for the unit in item 2.
b A third preliminary inspection (if needed) requires an additional set of claim forms. Enter the date of the notice for a third preliminary inspection in the 1st space of item 14 on the second set.
c Reserve the "Final" space on the first page of the first set of claim forms for the date of notice for the final inspection.
d If the inspection is initiated by the insurance provider, enter "Company Insp." instead of the date.

F Adjusters: Transfer the last date in the 1st, or 2nd space to the FINAL space if a final inspection should be made as a result of the notice.

Always enter the COMPLETE date of notice for the "FINAL" inspection in the final space on the first page of the first set of claim forms (month, day, year). For a delayed notice of loss or delayed claim, refer to the LAM.

## D Section I - Acreage, Appraised Production and Adjustments

Verify or make the following entries:

## Item Number

A Field ID

B Preliminary
Acres
C Final Acres
D Interest Share

E Risk

## Entry or Instruction

The field identification symbol from a sketch map or an aerial photo. See narrative instructions. In the margin, enter the DATE of inspection for the LAST line entry of each inspection.

MAKE NO ENTRY.

MAKE NO ENTRY.
Insured's interest (ownership share only) in the crop to three decimal places as determined at the time of inspection.

The correct rate/class from the County Actuarial Table. Verify
with the acreage report and if the rate/class is incorrect, prepare a revised acreage report.

F Practice

G Type Class Variety

H Stage

I Amount of Protection (Intended or Final Use)

J-M

N Dollar Amount of Loss (Adjusted Potential)

O Dollar Amount to Count (Total to Count)

P Per Acre
Q Total
16 Total Acres

17 Totals

Practice, entered as a 3-digit code number exactly as specified on the County Actuarial Table and that it is the practice carried out by the insured. If "No Practice Specified," enter the appropriate 3-digit code number.

Type, entered as a 3-digit code number exactly as specified on the County Actuarial Table and that it is the type grown by the insured. If "No Type Specified," enter the appropriate 3-digit code number.

Stage I, II, or III, from the acreage report. Stage identifies the greatest number of insurable trees in the unit at a certain stage when insurance attached. There is only one stage for each unit.

Enter the lesser of the Unit Value or the Selected Amount of Protection for the unit.

MAKE NO ENTRY.

Record the Net Dollar Amount of Loss from the calculation in the Narrative.

Determine Dollar Amount to Count by subtracting Net Dollar Amount of Loss (item N) from Amount of Protection (item I).

MAKE NO ENTRY.
Transfer the Amount of Protection from item I.

MAKE NO ENTRY.

Total of columns "O" and "Q."

NARRATIVE: If more space is needed, attach a Special Report.
1 Enter "No trees released" and date, when applicable, for the unit.
2 Document the Dollar Amount of Loss calculated (see section 18B).
3 Explain any uninsured causes, unusual or controversial cases in this item or on a Special Report. If you prepare a Special Report, so indicate.

Note: Trees damaged by an uninsured cause during the calendar year will be counted as undamaged trees. Enter the percent of trees damaged by uninsured causes and explain.

4 Explain any errors found on the acreage report.
5 Explain a "NO" checked in item 19.
6 Attach a sketch map or aerial photograph to identify the total unit:
a if consent is or has been given to prune, buckhorn, or remove any damaged trees that have been inspected and released;
b if uninsured causes are present; or
c for unusual or controversial cases.
NOTE: Indicate on the sketch map or aerial photo any trees pruned, buckhorned, or removed without consent.

7 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 form for signature.

8 Enter the code number of any other adjuster or supervisor, and date of inspection in the lower right corner of this space when he/she accompanied the adjuster on the inspection.

9 Explain the reason for a "No Indemnity Due" claim.
10 Explain any delayed notices or delayed claims as instructed in the LAM.
11 Document (in the narrative or on an attachment) any other pertinent information. If on an attachment, enter "See attachment."

## D Section II - Harvested Production

Verify or make the following entries:

## Item Number Entry or Instruction

18 Date Harvest P MAKE NO ENTRY.

Completed
F Enter the date the entire unit was (1) totally destroyed, (2) a combination of destroyed and damaged, or (3) the end of the insurance period.

P MAKE NO ENTRY.
F Check "Yes" or "No." Check "Yes" if amount and cause of damage due to INSURABLE causes is similar to other groves in the area. If "NO" is checked, explain in the Narrative.

20 Assignment of Indemnity

21 Transfer of Right to Indemnity

A1-S

22-24

25 Adjuster's Signature Code \# and Date

26 Insured's Signature and Date

27 Page Numbers

Check "Yes" only if an Assignment of Indemnity is in effect for the crop year, otherwise, check "No."

Check "Yes" only if a Transfer of Right to Indemnity is in effect for the unit for the crop year. Refer to the LAM.

MAKE NO ENTRY.
MAKE NO ENTRY.

P Signature of adjuster, code number, and date signed for each inspection after the insured (or other claimant) has signed. For an absentee insured, enter your code number only. The signature and date will be entered after the absentee has signed and returned the Production Worksheet.

F Final inspection should be signed on the bottom line.
P Signature of insured (or other claimant) and date of signature. Before obtaining insured's signature, review all entries on the claim form with the insured, particularly explaining codes, etc., that may not be readily understood.

F Final inspection should be signed on the bottom line.
P Page numbers. Enter page " 1, ," "2," etc., at the time of inspection.
F Page numbers (Example: Page 1 of 1, Page 2 of 2, etc.).


TABLE FOR TREE HEIGHT AND AVERAGE CANOPY WIDTH

| HEIGHT |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30.0 | 423.9 | 497.5 | 577.0 | 662.3 | 753.6 | 850.7 | 953.8 |
| 29.5 | 416.8 | 489.2 | 567.4 | 651.3 | 741.0 | 836.6 | 937.9 |
| 29.0 | 409.8 | 480.9 | 557.7 | 640.3 | 728.5 | 822.4 | 922.0 |
| 28.5 | 402.7 | 472.6 | 548.1 | 629.2 | 715.9 | 808.2 | 906.1 |
| 28.0 | 395.6 | 464.3 | 538.5 | 618.2 | 703.4 | 794.0 | 890.2 |
| 27.5 | 388.6 | 456.0 | 528.9 | 607.1 | 690.8 | 779.8 | 874.3 |
| 27.0 | 381.5 | 447.7 | 519.3 | 596.1 | 678.2 | 765.7 | 858.4 |
| 26.5 | 374.4 | 439.5 | 509.7 | 585.1 | 665.7 | 751.5 | 842.5 |
| 26.0 | 367.4 | 431.2 | 500.0 | 574.0 | 653.1 | 737.3 | 826.6 |
| 25.5 | 360.3 | 422.9 | 490.4 | 563.0 | 640.6 | 723.1 | 810.7 |
| 25.0 | 353.3 | 414.6 | 480.8 | 552.0 | 628.0 | 709.0 | 794.8 |
| 24.5 | 346.2 | 406.3 | 471.2 | 540.9 | 615.4 | 694.8 | 778.9 |
| 24.0 | 339.1 | 398.0 | 461.6 | 529.9 | 602.9 | 680.6 | 763.0 |
| 23.5 | 332.1 | 389.7 | 452.0 | 518.8 | 590.3 | 666.4 | 747.1 |
| 23.0 | 325.0 | 381.4 | 442.3 | 507.8 | 577.8 | 652.2 | 731.2 |
| 22.5 | 317.9 | 373.1 | 432.7 | 496.8 | 565.2 | 638.1 | 715.3 |
| 22.0 | 310.9 | 364.8 | 423.1 | 485.7 | 552.6 | 623.9 | 699.4 |
| 21.5 | 303.8 | 356.5 | 413.5 | 474.7 | 540.1 | 609.7 | 683.5 |
| 21.0 | 296.7 | 348.2 | 403.9 | 463.6 | 527.5 | 595.5 | 667.6 |
| 20.5 | 289.7 | 340.0 | 394.3 | 452.6 | 515.0 | 581.3 | 651.7 |
| 20.0 | 282.6 | 331.7 | 384.7 | 441.6 | 502.4 | 567.2 | 635.9 |
| 19.5 | 275.5 | 323.4 | 375.0 | 430.5 | 489.8 | 553.0 | 620.0 |
| 19.0 | 268.5 | 315.1 | 365.4 | 419.5 | 477.3 | 538.8 | 604.1 |
| 18.5 | 261.4 | 306.8 | 355.8 | 408.4 | 464.7 | 524.6 | 588.2 |
| 18.0 | 254.3 | 298.5 | 346.2 | 397.4 | 452.2 | 510.4 | 572.3 |
| 17.5 | 247.3 | 290.2 | 336.6 | 386.4 | 439.6 | 496.3 | 556.4 |
| 17.0 | 240.2 | 281.9 | 327.0 | 375.3 | 427.0 | 482.1 | 540.5 |
| 16.5 | 233.1 | 273.6 | 317.3 | 364.3 | 414.5 | 467.9 | 524.6 |
| 16.0 | 226.1 | 265.3 | 307.7 | 353.3 | 401.9 | 453.7 | 508.7 |
| 15.5 | 219.0 | 257.0 | 298.1 | 342.2 | 389.4 | 439.6 | 492.8 |
| 15.0 | 212.0 | 248.7 | 288.5 | 331.2 | 376.8 | 425.4 | 476.9 |
| 14.5 | 204.9 | 240.5 | 278.9 | 320.1 | 364.2 | 411.2 | 461.0 |
| 14.0 | 197.8 | 232.2 | 269.3 | 309.1 | 351.7 | 397.0 | 445.1 |
| 13.5 | 190.8 | 223.9 | 259.6 | 298.1 | 339.1 | 382.8 | 429.2 |
| 13.0 | 183.7 | 215.6 | 250.0 | 287.0 | 326.6 | 368.7 | 413.3 |
| 12.5 | 176.6 | 207.3 | 240.4 | 276.0 | 314.0 | 354.5 | 397.4 |
| 12.0 | 169.6 | 199.0 | 230.8 | 264.9 | 301.4 | 340.3 | 381.5 |
| 11.5 | 162.5 | 190.7 | 221.2 | 253.9 | 288.9 | 326.1 | 365.6 |
| 11.0 | 155.4 | 182.4 | 211.6 | 242.9 | 276.3 | 311.9 | 349.7 |
| 10.5 | 148.4 | 174.1 | 201.9 | 231.8 | 263.8 | 297.8 | 333.8 |
| 10.0 | 141.3 | 165.8 | 192.3 | 220.8 | 251.2 | 283.6 | 317.9 |
| 9.5 | 134.2 | 157.5 | 182.7 | 209.7 | 238.6 | 269.4 | 302.0 |
| 9.0 | 127.2 | 149.2 | 173.1 | 198.7 | 226.1 | 255.2 | 286.1 |
| 8.5 | 120.1 | 141.0 | 163.5 | 187.7 | 213.5 | 241.0 | 270.2 |
| 8.0 | 113.0 | 132.7 | 153.9 | 176.6 | 201.0 | 226.9 | 254.3 |
|  | 6.0 | 6.5 | 7.0 | 7.5 | 8.0 | 8.5 | 9.0 |

AVERAGE CANOPY WIDTH

TABLE FOR TREE HEIGHT AND AVERAGE CANOPY WIDTH (CONTINUED)

| HEIGHT |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1062.7 | 1177.5 | 1298.2 | 1424.8 | 1557.2 | 1695.6 | 1839.8 |
| 29.5 | 1045.0 | 1157.9 | 1276.6 | 1401.0 | 1531.3 | 1667.3 | 1809.2 |
| 29.0 | 1027.3 | 1138.3 | 1254.9 | 1377.3 | 1505.3 | 1639.1 | 1778.5 |
| 28.5 | 1009.6 | 1118.6 | 1233.3 | 1353.5 | 1479.4 | 1610.8 | 1747.9 |
| 28.0 | 991.8 | 1099.0 | 1211.6 | 1329.8 | 1453.4 | 1582.6 | 1717.2 |
| 27.5 | 974.1 | 1079.4 | 1190.0 | 1306.0 | 1427.5 | 1554.3 | 1686.5 |
| 27.0 | 956.4 | 1059.8 | 1168.4 | 1282.3 | 1401.5 | 1526.0 | 1655.9 |
| 26.5 | 938.7 | 1040.1 | 1146.7 | 1258.6 | 1375.6 | 1497.8 | 1625.2 |
| 26.0 | 921.0 | 1020.5 | 1125.1 | 1234.8 | 1349.6 | 1469.5 | 1594.5 |
| 25.5 | 903.3 | 1000.9 | 1103.5 | 1211.1 | 1323.7 | 1441.3 | 1563.9 |
| 25.0 | 885.6 | 981.3 | 1081.8 | 1187.3 | 1297.7 | 1413.0 | 1533.2 |
| 24.5 | 867.9 | 961.6 | 1060.2 | 1163.6 | 1271.7 | 1384.7 | 1502.5 |
| 24.0 | 850.2 | 942.0 | 1038.6 | 1139.8 | 1245.8 | 1356.5 | 1471.9 |
| 23.5 | 832.4 | 922.4 | 1016.9 | 1116.1 | 1219.8 | 1328.2 | 1441.2 |
| 23.0 | 814.7 | 902.8 | 995.3 | 1092.3 | 1193.9 | 1300.0 | 1410.5 |
| 22.5 | 797.0 | 883.1 | 973.6 | 1068.6 | 1167.9 | 1271.7 | 1379.9 |
| 22.0 | 779.3 | 863.5 | 952.0 | 1044.8 | 1142.0 | 1243.4 | 1349.2 |
| 21.5 | 761.6 | 843.9 | 930.4 | 1021.1 | 1116.0 | 1215.2 | 1318.6 |
| 21.0 | 743.9 | 824.3 | 908.7 | 997.3 | 1090.1 | 1186.9 | 1287.9 |
| 20.5 | 726.2 | 804.6 | 887.1 | 973.6 | 1064.1 | 1158.7 | 1257.2 |
| 20.0 | 708.5 | 785.0 | 865.5 | 949.9 | 1038.2 | 1130.4 | 1226.6 |
| 19.5 | 690.8 | 765.4 | 843.8 | 926.1 | 1012.2 | 1102.1 | 1195.9 |
| 19.0 | 673.0 | 745.8 | 822.2 | 902.4 | 986.3 | 1073.9 | 1165.2 |
| 18.5 | 655.3 | 726.1 | 800.6 | 878.6 | 960.3 | 1045.6 | 1134.6 |
| 18.0 | 637.6 | 706.5 | 778.9 | 854.9 | 934.3 | 1017.4 | 1103.9 |
| 17.5 | 619.9 | 686.9 | 757.3 | 831.1 | 908.4 | 989.1 | 1073.2 |
| 17.0 | 602.2 | 667.3 | 735.6 | 807.4 | 882.4 | 960.8 | 1042.6 |
| 16.5 | 584.5 | 647.6 | 714.0 | 783.6 | 856.5 | 932.6 | 1011.9 |
| 16.0 | 566.8 | 628.0 | 692.4 | 759.9 | 830.5 | 904.3 | 981.3 |
| 15.5 | 549.1 | 608.4 | 670.7 | 736.1 | 804.6 | 876.1 | 950.6 |
| 15.0 | 531.3 | 588.8 | 649.1 | 712.4 | 778.6 | 847.8 | 919.9 |
| 14.5 | 513.6 | 569.1 | 627.5 | 688.6 | 752.7 | 819.5 | 889.3 |
| 14.0 | 495.9 | 549.5 | 605.8 | 664.9 | 726.7 | 791.3 | 858.6 |
| 13.5 | 478.2 | 529.9 | 584.2 | 641.1 | 700.8 | 763.0 | 827.9 |
| 13.0 | 460.5 | 510.3 | 562.6 | 617.4 | 674.8 | 734.8 | 797.3 |
| 12.5 | 442.8 | 490.6 | 540.9 | 593.7 | 648.9 | 706.5 | 766.6 |
| 12.0 | 425.1 | 471.0 | 519.3 | 569.9 | 622.9 | 678.2 | 735.9 |
| 11.5 | 407.4 | 451.4 | 497.6 | 546.2 | 596.9 | 650.0 | 705.3 |
| 11.0 | 389.7 | 431.8 | 476.0 | 522.4 | 571.0 | 621.7 | 674.6 |
| 10.5 | 371.9 | 412.1 | 454.4 | 498.7 | 545.0 | 593.5 | 643.9 |
| 10.0 | 354.2 | 392.5 | 432.7 | 474.9 | 519.1 | 565.2 | 613.3 |
| 9.5 | 336.5 | 372.9 | 411.1 | 451.2 | 493.1 | 536.9 | 582.6 |
| 9.0 | 318.8 | 353.3 | 389.5 | 427.4 | 467.2 | 508.7 | 552.0 |
| 8.5 | 301.1 | 333.6 | 367.8 | 403.7 | 441.2 | 480.4 | 521.3 |
| 8.0 | 283.4 | 314.0 | 346.2 | 379.9 | 415.3 | 452.2 | 490.6 |
|  | 9.5 | 10.0 | 10.5 | 11.0 | 11.5 | 12.0 | 12.5 |

AVERAGE CANOPY WIDTH

TABLE FOR TREE HEIGHT AND AVERAGE CANOPY WIDTH (CONTINUED)

| HEIGHT |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30.0 | 1990.0 | 2146.0 | 2307.9 | 2475.7 | 2649.4 | 2828.9 | 3014.4 |
| 29.5 | 1956.8 | 2110.2 | 2269.4 | 2434.4 | 2605.2 | 2781.8 | 2964.2 |
| 29.0 | 1923.6 | 2074.5 | 2231.0 | 2393.2 | 2561.1 | 2734.6 | 2913.9 |
| 28.5 | 1890.5 | 2038.7 | 2192.5 | 2351.9 | 2516.9 | 2687.5 | 2863.7 |
| 28.0 | 1857.3 | 2002.9 | 2154.0 | 2310.6 | 2472.8 | 2640.3 | 2813.4 |
| 27.5 | 1824.1 | 1967.2 | 2115.6 | 2269.4 | 2428.6 | 2593.2 | 2763.2 |
| 27.0 | 1791.0 | 1931.4 | 2077.1 | 2228.1 | 2384.4 | 2546.0 | 2713.0 |
| 26.5 | 1757.8 | 1895.6 | 2038.6 | 2186.9 | 2340.3 | 2498.9 | 2662.7 |
| 26.0 | 1724.6 | 1859.9 | 2000.2 | 2145.6 | 2296.1 | 2451.8 | 2612.5 |
| 25.5 | 1691.5 | 1824.1 | 1961.7 | 2104.3 | 2252.0 | 2404.6 | 2562.2 |
| 25.0 | 1658.3 | 1788.3 | 1923.3 | 2063.1 | 2207.8 | 2357.5 | 2512.0 |
| 24.5 | 1625.1 | 1752.6 | 1884.8 | 2021.8 | 2163.7 | 2310.3 | 2461.8 |
| 24.0 | 1592.0 | 1716.8 | 1846.3 | 1980.6 | 2119.5 | 2263.2 | 2411.5 |
| 23.5 | 1558.8 | 1681.0 | 1807.9 | 1939.3 | 2075.3 | 2216.0 | 2361.3 |
| 23.0 | 1525.6 | 1645.3 | 1769.4 | 1898.0 | 2031.2 | 2168.9 | 2311.0 |
| 22.5 | 1492.5 | 1609.5 | 1730.9 | 1856.8 | 1987.0 | 2121.7 | 2260.8 |
| 22.0 | 1459.3 | 1573.7 | 1692.5 | 1815.5 | 1942.9 | 2074.6 | 2210.6 |
| 21.5 | 1426.1 | 1538.0 | 1654.0 | 1774.2 | 1898.7 | 2027.4 | 2160.3 |
| 21.0 | 1393.0 | 1502.2 | 1615.5 | 1733.0 | 1854.6 | 1980.3 | 2110.1 |
| 20.5 | 1359.8 | 1466.4 | 1577.1 | 1691.7 | 1810.4 | 1933.1 | 2059.8 |
| 20.0 | 1326.7 | 1430.7 | 1538.6 | 1650.5 | 1766.3 | 1886.0 | 2009.6 |
| 19.5 | 1293.5 | 1394.9 | 1500.1 | 1609.2 | 1722.1 | 1838.8 | 1959.4 |
| 19.0 | 1260.3 | 1359.1 | 1461.7 | 1567.9 | 1677.9 | 1791.7 | 1909.1 |
| 18.5 | 1227.2 | 1323.4 | 1423.2 | 1526.7 | 1633.8 | 1744.5 | 1858.9 |
| 18.0 | 1194.0 | 1287.6 | 1384.7 | 1485.4 | 1589.6 | 1697.4 | 1808.6 |
| 17.5 | 1160.8 | 1251.8 | 1346.3 | 1444.2 | 1545.5 | 1650.2 | 1758.4 |
| 17.0 | 1127.7 | 1216.1 | 1307.8 | 1402.9 | 1501.3 | 1603.1 | 1708.2 |
| 16.5 | 1094.5 | 1180.3 | 1269.3 | 1361.6 | 1457.2 | 1555.9 | 1657.9 |
| 16.0 | 1061.3 | 1144.5 | 1230.9 | 1320.4 | 1413.0 | 1508.8 | 1607.7 |
| 15.5 | 1028.2 | 1108.8 | 1192.4 | 1279.1 | 1368.8 | 1461.6 | 1557.4 |
| 15.0 | 995.0 | 1073.0 | 1154.0 | 1237.8 | 1324.7 | 1414.5 | 1507.2 |
| 14.5 | 961.8 | 1037.2 | 1115.5 | 1196.6 | 1280.5 | 1367.3 | 1457.0 |
| 14.0 | 928.7 | 1001.5 | 1077.0 | 1155.3 | 1236.4 | 1320.2 | 1406.7 |
| 13.5 | 895.5 | 965.7 | 1038.6 | 1114.1 | 1192.2 | 1273.0 | 1356.5 |
| 13.0 | 862.3 | 929.9 | 1000.1 | 1072.8 | 1148.1 | 1225.9 | 1306.2 |
| 12.5 | 829.2 | 894.2 | 961.6 | 1031.5 | 1103.9 | 1178.7 | 1256.0 |
| 12.0 | 796.0 | 858.4 | 923.2 | 990.3 | 1059.8 | 1131.6 | 1205.8 |
| 11.5 | 762.8 | 822.6 | 884.7 | 949.0 | 1015.6 | 1084.4 | 1155.5 |
| 11.0 | 729.7 | 786.9 | 846.2 | 907.8 | 971.4 | 1037.3 | 1105.3 |
| 10.5 | 696.5 | 751.1 | 807.8 | 866.5 | 927.3 | 990.1 | 1055.0 |
| 10.0 | 663.3 | 715.3 | 769.3 | 825.2 | 883.1 | 943.0 | 1004.8 |
| 9.5 | 630.2 | 679.6 | 730.8 | 784.0 | 839.0 | 895.8 | 954.6 |
| 9.0 | 597.0 | 643.8 | 692.4 | 742.7 | 794.8 | 848.7 | 904.3 |
| 8.5 | 563.8 | 608.0 | 653.9 | 701.4 | 750.7 | 801.5 | 854.1 |
| 8.0 | 530.7 | 572.3 | 615.4 | 660.2 | 706.5 | 754.4 | 803.8 |
|  | 13.0 | 13.5 | 14.0 | 14.5 | 15.0 | 15.5 | 16.0 |

AVERAGE CANOPY WIDTH

TABLE FOR TREE HEIGHT AND AVERAGE CANOPY WIDTH (CONTINUED)

| HEIGHT | 3205.7 | 3403.0 | 3606.1 | 3815.1 | 4030.0 | 4250.8 | 4477.4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30.0 |  |  |  |  |  |  |  |
| 29.5 | 3152.3 | 3346.3 | 3546.0 | 3751.5 | 3962.8 | 4179.9 | 4402.8 |
| 29.0 | 3098.9 | 3289.5 | 3485.9 | 3687.9 | 3895.7 | 4109.1 | 4328.2 |
| 28.5 | 3045.5 | 3232.8 | 3425.8 | 3624.3 | 3828.5 | 4038.2 | 4253.6 |
| 28.0 | 2992.0 | 3176.1 | 3365.7 | 3560.8 | 3761.3 | 3967.4 | 4178.9 |
| 27.5 | 2938.6 | 3119.4 | 3305.6 | 3497.2 | 3694.2 | 3896.5 | 4104.3 |
| 27.0 | 2885.2 | 3062.7 | 3245.5 | 3433.6 | 3627.0 | 3825.7 | 4029.7 |
| 26.5 | 2831.7 | 3006.0 | 3185.4 | 3370.0 | 3559.8 | 3754.9 | 3955.1 |
| 26.0 | 2778.3 | 2949.2 | 3125.3 | 3306.4 | 3492.7 | 3684.0 | 3880.5 |
| 25.5 | 2724.9 | 2892.5 | 3065.2 | 3242.8 | 3425.5 | 3613.2 | 3805.8 |
| 25.0 | 2671.5 | 2835.8 | 3005.1 | 3179.3 | 3358.3 | 3542.3 | 3731.2 |
| 24.5 | 2618.0 | 2779.1 | 2945.0 | 3115.7 | 3291.2 | 3471.5 | 3656.6 |
| 24.0 | 2564.6 | 2722.4 | 2884.9 | 3052.1 | 3224.0 | 3400.6 | 3582.0 |
| 23.5 | 2511.2 | 2665.7 | 2824.8 | 2988.5 | 3156.8 | 3329.8 | 3507.3 |
| 23.0 | 2457.7 | 2608.9 | 2764.7 | 2924.9 | 3089.7 | 3258.9 | 3432.7 |
| 22.5 | 2404.3 | 2552.2 | 2704.6 | 2861.3 | 3022.5 | 3188.1 | 3358.1 |
| 22.0 | 2350.9 | 2495.5 | 2644.5 | 2797.7 | 2955.3 | 3117.2 | 3283.5 |
| 21.5 | 2297.4 | 2438.8 | 2584.4 | 2734.2 | 2888.2 | 3046.4 | 3208.8 |
| 21.0 | 2244.0 | 2382.1 | 2524.3 | 2670.6 | 2821.0 | 2975.5 | 3134.2 |
| 20.5 | 2190.6 | 2325.4 | 2464.2 | 2607.0 | 2753.8 | 2904.7 | 3059.6 |
| 20.0 | 2137.2 | 2268.7 | 2404.1 | 2543.4 | 2686.7 | 2833.9 | 2985.0 |
| 19.5 | 2083.7 | 2211.9 | 2344.0 | 2479.8 | 2619.5 | 2763.0 | 2910.3 |
| 19.0 | 2030.3 | 2155.2 | 2283.9 | 2416.2 | 2552.3 | 2692.2 | 2835.7 |
| 18.5 | 1976.9 | 2098.5 | 2223.8 | 2352.6 | 2485.2 | 2621.3 | 2761.1 |
| 18.0 | 1923.4 | 2041.8 | 2163.7 | 2289.1 | 2418.0 | 2550.5 | 2686.5 |
| 17.5 | 1870.0 | 1985.1 | 2103.6 | 2225.5 | 2350.8 | 2479.6 | 2611.8 |
| 17.0 | 1816.6 | 1928.4 | 2043.5 | 2161.9 | 2283.7 | 2408.8 | 2537.2 |
| 16.5 | 1763.2 | 1871.6 | 1983.4 | 2098.3 | 2216.5 | 2337.9 | 2462.6 |
| 16.0 | 1709.7 | 1814.9 | 1923.3 | 2034.7 | 2149.3 | 2267.1 | 2388.0 |
| 15.5 | 1656.3 | 1758.2 | 1863.1 | 1971.1 | 2082.2 | 2196.2 | 2313.3 |
| 15.0 | 1602.9 | 1701.5 | 1803.0 | 1907.6 | 2015.0 | 2125.4 | 2238.7 |
| 14.5 | 1549.4 | 1644.8 | 1742.9 | 1844.0 | 1947.8 | 2054.5 | 2164.1 |
| 14.0 | 1496.0 | 1588.1 | 1682.8 | 1780.4 | 1880.7 | 1983.7 | 2089.5 |
| 13.5 | 1442.6 | 1531.3 | 1622.7 | 1716.8 | 1813.5 | 1912.8 | 2014.8 |
| 13.0 | 1389.2 | 1474.6 | 1562.6 | 1653.2 | 1746.3 | 1842.0 | 1940.2 |
| 12.5 | 1335.7 | 1417.9 | 1502.5 | 1589.6 | 1679.2 | 1771.2 | 1865.6 |
| 12.0 | 1282.3 | 1361.2 | 1442.4 | 1526.0 | 1612.0 | 1700.3 | 1791.0 |
| 11.5 | 1228.9 | 1304.5 | 1382.3 | 1462.5 | 1544.8 | 1629.5 | 1716.4 |
| 11.0 | 1175.4 | 1247.8 | 1322.2 | 1398.9 | 1477.7 | 1558.6 | 1641.7 |
| 10.5 | 1122.0 | 1191.0 | 1262.1 | 1335.3 | 1410.5 | 1487.8 | 1567.1 |
| 10.0 | 1068.6 | 1134.3 | 1202.0 | 1271.7 | 1343.3 | 1416.9 | 1492.5 |
| 9.5 | 1015.2 | 1077.6 | 1141.9 | 1208.1 | 1276.2 | 1346.1 | 1417.9 |
| 9.0 | 961.7 | 1020.9 | 1081.8 | 1144.5 | 1209.0 | 1275.2 | 1343.2 |
| 8.5 | 908.3 | 964.2 | 1021.7 | 1080.9 | 1141.8 | 1204.4 | 1268.6 |
| 8.0 | 854.9 | 907.5 | 961.6 | 1017.4 | 1074.7 | 1133.5 | 1194.0 |
|  | 16.5 | 17.0 | 17.5 | 18.0 | 18.5 | 19.0 | 19.5 |

AVERAGE CANOPY WIDTH

TABLE FOR TREE HEIGHT AND AVERAGE CANOPY WIDTH (CONTINUED)

| HEIGHT |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30.0 | 4710.0 | 4948.4 | 5192.8 | 5443.0 | 5699.1 | 5961.1 | 6229.0 |
| 29.5 | 4631.5 | 4866.0 | 5106.2 | 5352.3 | 5604.1 | 5861.7 | 6125.2 |
| 29.0 | 4553.0 | 4783.5 | 5019.7 | 5261.6 | 5509.1 | 5762.4 | 6021.3 |
| 28.5 | 4474.5 | 4701.0 | 4933.1 | 5170.8 | 5414.1 | 5663.0 | 5917.5 |
| 28.0 | 4396.0 | 4618.5 | 4846.6 | 5080.1 | 5319.2 | 5563.7 | 5813.7 |
| 27.5 | 4317.5 | 4536.1 | 4760.0 | 4989.4 | 5224.2 | 5464.3 | 5709.9 |
| 27.0 | 4239.0 | 4453.6 | 4673.5 | 4898.7 | 5129.2 | 5365.0 | 5606.1 |
| 26.5 | 4160.5 | 4371.1 | 4587.0 | 4808.0 | 5034.2 | 5265.6 | 5502.3 |
| 26.0 | 4082.0 | 4288.7 | 4500.4 | 4717.3 | 4939.2 | 5166.3 | 5398.4 |
| 25.5 | 4003.5 | 4206.2 | 4413.9 | 4626.5 | 4844.2 | 5066.9 | 5294.6 |
| 25.0 | 3925.0 | 4123.7 | 4327.3 | 4535.8 | 4749.3 | 4967.6 | 5190.8 |
| 24.5 | 3846.5 | 4041.2 | 4240.8 | 4445.1 | 4654.3 | 4868.2 | 5087.0 |
| 24.0 | 3768.0 | 3958.8 | 4154.2 | 4354.4 | 4559.3 | 4768.9 | 4983.2 |
| 23.5 | 3689.5 | 3876.3 | 4067.7 | 4263.7 | 4464.3 | 4669.5 | 4879.4 |
| 23.0 | 3611.0 | 3793.8 | 3981.1 | 4173.0 | 4369.3 | 4570.2 | 4775.5 |
| 22.5 | 3532.5 | 3711.3 | 3894.6 | 4082.2 | 4274.3 | 4470.8 | 4671.7 |
| 22.0 | 3454.0 | 3628.9 | 3808.0 | 3991.5 | 4179.3 | 4371.5 | 4567.9 |
| 21.5 | 3375.5 | 3546.4 | 3721.5 | 3900.8 | 4084.4 | 4272.1 | 4464.1 |
| 21.0 | 3297.0 | 3463.9 | 3634.9 | 3810.1 | 3989.4 | 4172.8 | 4360.3 |
| 20.5 | 3218.5 | 3381.4 | 3548.4 | 3719.4 | 3894.4 | 4073.4 | 4256.5 |
| 20.0 | 3140.0 | 3299.0 | 3461.9 | 3628.7 | 3799.4 | 3974.1 | 4152.7 |
| 19.5 | 3061.5 | 3216.5 | 3375.3 | 3537.9 | 3704.4 | 3874.7 | 4048.8 |
| 19.0 | 2983.0 | 3134.0 | 3288.8 | 3447.2 | 3609.4 | 3775.4 | 3945.0 |
| 18.5 | 2904.5 | 3051.5 | 3202.2 | 3356.5 | 3514.4 | 3676.0 | 3841.2 |
| 18.0 | 2826.0 | 2969.1 | 3115.7 | 3265.8 | 3419.5 | 3576.7 | 3737.4 |
| 17.5 | 2747.5 | 2886.6 | 3029.1 | 3175.1 | 3324.5 | 3477.3 | 3633.6 |
| 17.0 | 2669.0 | 2804.1 | 2942.6 | 3084.4 | 3229.5 | 3378.0 | 3529.8 |
| 16.5 | 2590.5 | 2721.6 | 2856.0 | 2993.6 | 3134.5 | 3278.6 | 3425.9 |
| 16.0 | 2512.0 | 2639.2 | 2769.5 | 2902.9 | 3039.5 | 3179.3 | 3322.1 |
| 15.5 | 2433.5 | 2556.7 | 2682.9 | 2812.2 | 2944.5 | 3079.9 | 3218.3 |
| 15.0 | 2355.0 | 2474.2 | 2596.4 | 2721.5 | 2849.6 | 2980.5 | 3114.5 |
| 14.5 | 2276.5 | 2391.7 | 2509.8 | 2630.8 | 2754.6 | 2881.2 | 3010.7 |
| 14.0 | 2198.0 | 2309.3 | 2423.3 | 2540.1 | 2659.6 | 2781.8 | 2906.9 |
| 13.5 | 2119.5 | 2226.8 | 2336.7 | 2449.3 | 2564.6 | 2682.5 | 2803.0 |
| 13.0 | 2041.0 | 2144.3 | 2250.2 | 2358.6 | 2469.6 | 2583.1 | 2699.2 |
| 12.5 | 1962.5 | 2061.9 | 2163.7 | 2267.9 | 2374.6 | 2483.8 | 2595.4 |
| 12.0 | 1884.0 | 1979.4 | 2077.1 | 2177.2 | 2279.6 | 2384.4 | 2491.6 |
| 11.5 | 1805.5 | 1896.9 | 1990.6 | 2086.5 | 2184.7 | 2285.1 | 2387.8 |
| 11.0 | 1727.0 | 1814.4 | 1904.0 | 1995.8 | 2089.7 | 2185.7 | 2284.0 |
| 10.5 | 1648.5 | 1732.0 | 1817.5 | 1905.0 | 1994.7 | 2086.4 | 2180.1 |
| 10.0 | 1570.0 | 1649.5 | 1730.9 | 1814.3 | 1899.7 | 1987.0 | 2076.3 |
| 9.5 | 1491.5 | 1567.0 | 1644.4 | 1723.6 | 1804.7 | 1887.7 | 1972.5 |
| 9.0 | 1413.0 | 1484.5 | 1557.8 | 1632.9 | 1709.7 | 1788.3 | 1868.7 |
| 8.5 | 1334.5 | 1402.1 | 1471.3 | 1542.2 | 1614.7 | 1689.0 | 1764.9 |
| 8.0 | 1256.0 | 1319.6 | 1384.7 | 1451.5 | 1519.8 | 1589.6 | 1661.1 |
|  | 20.0 | 20.5 | 21.0 | 21.5 | 22.0 | 22.5 | 23.0 |

AVERAGE CANOPY WIDTH

TABLE FOR TREE HEIGHT AND AVERAGE CANOPY WIDTH (CONTINUED)

| HEIGHT |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30.0 | 6502.7 | 6782.4 | 7067.9 | 7359.4 | 7656.7 | 7959.9 | 8269.0 |
| 29.5 | 6394.4 | 6669.4 | 6950.1 | 7236.7 | 7529.1 | 7827.2 | 8131.2 |
| 29.0 | 6286.0 | 6556.3 | 6832.3 | 7114.1 | 7401.5 | 7694.6 | 7993.4 |
| 28.5 | 6177.6 | 6443.3 | 6714.5 | 6991.4 | 7273.9 | 7561.9 | 7855.5 |
| 28.0 | 6069.2 | 6330.2 | 6596.7 | 6868.8 | 7146.2 | 7429.2 | 7717.7 |
| 27.5 | 5960.8 | 6217.2 | 6478.9 | 6746.1 | 7018.6 | 7296.6 | 7579.9 |
| 27.0 | 5852.5 | 6104.2 | 6361.1 | 6623.4 | 6891.0 | 7163.9 | 7442.1 |
| 26.5 | 5744.1 | 5991.1 | 6243.4 | 6500.8 | 6763.4 | 7031.2 | 7304.3 |
| 26.0 | 5635.7 | 5878.1 | 6125.6 | 6378.1 | 6635.8 | 6898.6 | 7166.5 |
| 25.5 | 5527.3 | 5765.0 | 6007.8 | 6255.5 | 6508.2 | 6765.9 | 7028.6 |
| 25.0 | 5419.0 | 5652.0 | 5890.0 | 6132.8 | 6380.6 | 6633.3 | 6890.8 |
| 24.5 | 5310.6 | 5539.0 | 5772.2 | 6010.2 | 6253.0 | 6500.6 | 6753.0 |
| 24.0 | 5202.2 | 5425.9 | 5654.4 | 5887.5 | 6125.4 | 6367.9 | 6615.2 |
| 23.5 | 5093.8 | 5312.9 | 5536.6 | 5764.8 | 5997.7 | 6235.3 | 6477.4 |
| 23.0 | 4985.4 | 5199.8 | 5418.8 | 5642.2 | 5870.1 | 6102.6 | 6339.6 |
| 22.5 | 4877.1 | 5086.8 | 5301.0 | 5519.5 | 5742.5 | 5969.9 | 6201.7 |
| 22.0 | 4768.7 | 4973.8 | 5183.2 | 5396.9 | 5614.9 | 5837.3 | 6063.9 |
| 21.5 | 4660.3 | 4860.7 | 5065.4 | 5274.2 | 5487.3 | 5704.6 | 5926.1 |
| 21.0 | 4551.9 | 4747.7 | 4947.6 | 5151.6 | 5359.7 | 5571.9 | 5788.3 |
| 20.5 | 4443.5 | 4634.6 | 4829.8 | 5028.9 | 5232.1 | 5439.3 | 5650.5 |
| 20.0 | 4335.2 | 4521.6 | 4712.0 | 4906.3 | 5104.5 | 5306.6 | 5512.7 |
| 19.5 | 4226.8 | 4408.6 | 4594.2 | 4783.6 | 4976.9 | 5173.9 | 5374.8 |
| 19.0 | 4118.4 | 4295.5 | 4476.4 | 4660.9 | 4849.2 | 5041.3 | 5237.0 |
| 18.5 | 4010.0 | 4182.5 | 4358.6 | 4538.3 | 4721.6 | 4908.6 | 5099.2 |
| 18.0 | 3901.6 | 4069.4 | 4240.8 | 4415.6 | 4594.0 | 4775.9 | 4961.4 |
| 17.5 | 3793.3 | 3956.4 | 4123.0 | 4293.0 | 4466.4 | 4643.3 | 4823.6 |
| 17.0 | 3684.9 | 3843.4 | 4005.2 | 4170.3 | 4338.8 | 4510.6 | 4685.8 |
| 16.5 | 3576.5 | 3730.3 | 3887.4 | 4047.7 | 4211.2 | 4377.9 | 4547.9 |
| 16.0 | 3468.1 | 3617.3 | 3769.6 | 3925.0 | 4083.6 | 4245.3 | 4410.1 |
| 15.5 | 3359.8 | 3504.2 | 3651.8 | 3802.3 | 3956.0 | 4112.6 | 4272.3 |
| 15.0 | 3251.4 | 3391.2 | 3534.0 | 3679.7 | 3828.3 | 3980.0 | 4134.5 |
| 14.5 | 3143.0 | 3278.2 | 3416.2 | 3557.0 | 3700.7 | 3847.3 | 3996.7 |
| 14.0 | 3034.6 | 3165.1 | 3298.4 | 3434.4 | 3573.1 | 3714.6 | 3858.9 |
| 13.5 | 2926.2 | 3052.1 | 3180.6 | 3311.7 | 3445.5 | 3582.0 | 3721.0 |
| 13.0 | 2817.9 | 2939.0 | 3062.8 | 3189.1 | 3317.9 | 3449.3 | 3583.2 |
| 12.5 | 2709.5 | 2826.0 | 2945.0 | 3066.4 | 3190.3 | 3316.6 | 3445.4 |
| 12.0 | 2601.1 | 2713.0 | 2827.2 | 2943.8 | 3062.7 | 3184.0 | 3307.6 |
| 11.5 | 2492.7 | 2599.9 | 2709.4 | 2821.1 | 2935.1 | 3051.3 | 3169.8 |
| 11.0 | 2384.3 | 2486.9 | 2591.6 | 2698.4 | 2807.5 | 2918.6 | 3032.0 |
| 10.5 | 2276.0 | 2373.8 | 2473.8 | 2575.8 | 2679.8 | 2786.0 | 2894.1 |
| 10.0 | 2167.6 | 2260.8 | 2356.0 | 2453.1 | 2552.2 | 2653.3 | 2756.3 |
| 9.5 | 2059.2 | 2147.8 | 2238.2 | 2330.5 | 2424.6 | 2520.6 | 2618.5 |
| 9.0 | 1950.8 | 2034.7 | 2120.4 | 2207.8 | 2297.0 | 2388.0 | 2480.7 |
| 8.5 | 1842.4 | 1921.7 | 2002.6 | 2085.2 | 2169.4 | 2255.3 | 2342.9 |
| 8.0 | 1734.1 | 1808.6 | 1884.8 | 1962.5 | 2041.8 | 2122.6 | 2205.1 |
|  | 23.5 | 24.0 | 24.5 | 25.0 | 25.5 | 26.0 | 26.5 |

AVERAGE CANOPY WIDTH

TABLE FOR TREE HEIGHT AND AVERAGE CANOPY WIDTH (CONTINUED)

| HEIGHT | 8584.0 | 8904.8 | 9231.6 | 9564.2 | 9902.8 | 10247.2 | 10597.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30.0 |  |  |  |  |  |  |  |
| 29.5 | 8440.9 | 8756.4 | 9077.7 | 9404.8 | 9737.7 | 10076.4 | 10420.9 |
| 29.0 | 8297.8 | 8608.0 | 8923.9 | 9245.4 | 9572.7 | 9905.6 | 10244.3 |
| 28.5 | 8154.8 | 8459.6 | 8770.0 | 9086.0 | 9407.6 | 9734.8 | 10067.6 |
| 28.0 | 8011.7 | 8311.2 | 8616.2 | 8926.6 | 9242.6 | 9564.0 | 9891.0 |
| 27.5 | 7868.6 | 8162.8 | 8462.3 | 8767.2 | 9077.5 | 9393.3 | 9714.4 |
| 27.0 | 7725.6 | 8014.4 | 8308.4 | 8607.8 | 8912.5 | 9222.5 | 9537.8 |
| 26.5 | 7582.5 | 7865.9 | 8154.6 | 8448.4 | 8747.5 | 9051.7 | 9361.1 |
| 26.0 | 7439.4 | 7717.5 | 8000.7 | 8289.0 | 8582.4 | 8880.9 | 9184.5 |
| 25.5 | 7296.4 | 7569.1 | 7846.9 | 8129.6 | 8417.4 | 8710.1 | 9007.9 |
| 25.0 | 7153.3 | 7420.7 | 7693.0 | 7970.2 | 8252.3 | 8539.3 | 8831.3 |
| 24.5 | 7010.2 | 7272.3 | 7539.1 | 7810.8 | 8087.3 | 8368.5 | 8654.6 |
| 24.0 | 6867.2 | 7123.9 | 7385.3 | 7651.4 | 7922.2 | 8197.8 | 8478.0 |
| 23.5 | 6724.1 | 6975.5 | 7231.4 | 7492.0 | 7757.2 | 8027.0 | 8301.4 |
| 23.0 | 6581.0 | 6827.0 | 7077.6 | 7332.6 | 7592.1 | 7856.2 | 8124.8 |
| 22.5 | 6438.0 | 6678.6 | 6923.7 | 7173.2 | 7427.1 | 7685.4 | 7948.1 |
| 22.0 | 6294.9 | 6530.2 | 6769.8 | 7013.8 | 7262.0 | 7514.6 | 7771.5 |
| 21.5 | 6151.8 | 6381.8 | 6616.0 | 6854.4 | 7097.0 | 7343.8 | 7594.9 |
| 21.0 | 6008.8 | 6233.4 | 6462.1 | 6695.0 | 6931.9 | 7173.0 | 7418.3 |
| 20.5 | 5865.7 | 6085.0 | 6308.3 | 6535.6 | 6766.9 | 7002.2 | 7241.6 |
| 20.0 | 5722.7 | 5936.6 | 6154.4 | 6376.2 | 6601.9 | 6831.5 | 7065.0 |
| 19.5 | 5579.6 | 5788.1 | 6000.5 | 6216.8 | 6436.8 | 6660.7 | 6888.4 |
| 19.0 | 5436.5 | 5639.7 | 5846.7 | 6057.4 | 6271.8 | 6489.9 | 6711.8 |
| 18.5 | 5293.5 | 5491.3 | 5692.8 | 5898.0 | 6106.7 | 6319.1 | 6535.1 |
| 18.0 | 5150.4 | 5342.9 | 5539.0 | 5738.5 | 5941.7 | 6148.3 | 6358.5 |
| 17.5 | 5007.3 | 5194.5 | 5385.1 | 5579.1 | 5776.6 | 5977.5 | 6181.9 |
| 17.0 | 4864.3 | 5046.1 | 5231.2 | 5419.7 | 5611.6 | 5806.7 | 6005.3 |
| 16.5 | 4721.2 | 4897.7 | 5077.4 | 5260.3 | 5446.5 | 5636.0 | 5828.6 |
| 16.0 | 4578.1 | 4749.3 | 4923.5 | 5100.9 | 5281.5 | 5465.2 | 5652.0 |
| 15.5 | 4435.1 | 4600.8 | 4769.7 | 4941.5 | 5116.4 | 5294.4 | 5475.4 |
| 15.0 | 4292.0 | 4452.4 | 4615.8 | 4782.1 | 4951.4 | 5123.6 | 5298.8 |
| 14.5 | 4148.9 | 4304.0 | 4461.9 | 4622.7 | 4786.3 | 4952.8 | 5122.1 |
| 14.0 | 4005.9 | 4155.6 | 4308.1 | 4463.3 | 4621.3 | 4782.0 | 4945.5 |
| 13.5 | 3862.8 | 4007.2 | 4154.2 | 4303.9 | 4456.2 | 4611.2 | 4768.9 |
| 13.0 | 3719.7 | 3858.8 | 4000.4 | 4144.5 | 4291.2 | 4440.5 | 4592.3 |
| 12.5 | 3576.7 | 3710.4 | 3846.5 | 3985.1 | 4126.2 | 4269.7 | 4415.6 |
| 12.0 | 3433.6 | 3561.9 | 3692.6 | 3825.7 | 3961.1 | 4098.9 | 4239.0 |
| 11.5 | 3290.5 | 3413.5 | 3538.8 | 3666.3 | 3796.1 | 3928.1 | 4062.4 |
| 11.0 | 3147.5 | 3265.1 | 3384.9 | 3506.9 | 3631.0 | 3757.3 | 3885.8 |
| 10.5 | 3004.4 | 3116.7 | 3231.1 | 3347.5 | 3466.0 | 3586.5 | 3709.1 |
| 10.0 | 2861.3 | 2968.3 | 3077.2 | 3188.1 | 3300.9 | 3415.7 | 3532.5 |
| 9.5 | 2718.3 | 2819.9 | 2923.3 | 3028.7 | 3135.9 | 3244.9 | 3355.9 |
| 9.0 | 2575.2 | 2671.5 | 2769.5 | 2869.3 | 2970.8 | 3074.2 | 3179.3 |
| 8.5 | 2432.1 | 2523.0 | 2615.6 | 2709.9 | 2805.8 | 2903.4 | 3002.6 |
| 8.0 | 2289.1 | 2374.6 | 2461.8 | 2550.5 | 2640.7 | 2732.6 | 2826.0 |
|  | 27.0 | 27.5 | 28.0 | 28.5 | 29.0 | 29.5 | 30.0 |

AVERAGE CANOPY WIDTH

| CONVERSION OF PERCENTAGE CANOPY REDUCTIONTO PERCENTAGE DAMAGE |  |  |  |
| :---: | :---: | :---: | :---: |
| PERCENTAGE CANOPY REDUCTION | PERCENTAGE CANOPY DAMAGE | PERCENTAGE CANOPY REDUCTION | PERCENTAGE DAMAGE |
| 1 | 1.1\% | 45 | 29.0\% |
| 2 | 1.9\% | 46 | 29.9\% |
| 3 | 2.7\% | 47 | 30.9\% |
| 4 | 3.5\% | 48 | 31.9\% |
| 5 | 4.3\% | 49 | 32.9\% |
| 6 | 5.2\% | 50 | 33.9\% |
| 7 | 6.0\% | 51 | 34.9\% |
| 8 | 6.8\% | 52 | 35.9\% |
| 9 | 7.6\% | 53 | 37.0\% |
| 10 | 8.4\% | 54 | 38.1\% |
| 11 | 8.6\% | 55 | 39.1\% |
| 12 | 8.8\% | 56 | 40.2\% |
| 13 | 9.1\% | 57 | 41.4\% |
| 14 | 9.4\% | 58 | 42.5\% |
| 15 | 9.7\% | 59 | 43.6\% |
| 16 | 10.0\% | 60 | 44.8\% |
| 17 | 10.4\% | 61 | 46.0\% |
| 18 | 10.7\% | 62 | 47.2\% |
| 19 | 11.1\% | 63 | 48.4\% |
| 20 | 11.6\% | 64 | 49.6\% |
| 21 | 12.0\% | 65 | 50.8\% |
| 22 | 12.5\% | 66 | 52.0\% |
| 23 | 13.0\% | 67 | 53.3\% |
| 24 | 13.5\% | 68 | 54.6\% |
| 25 | 14.0\% | 69 | 55.8\% |
| 26 | 14.6\% | 70 | 57.1\% |
| 27 | 15.2\% | 71 | 58.4\% |
| 28 | 15.8\% | 72 | 59.7\% |
| 29 | 16.4\% | 73 | 61.0\% |
| 30 | 17.0\% | 74 | 62.4\% |
| 31 | 17.7\% | 75 | 63.7\% |
| 32 | 18.4\% | 76 | 65.1\% |
| 33 | 19.1\% | 77 | 66.4\% |
| 34 | 19.8\% | 78 | 67.8\% |
| 35 | 20.5\% | 79 | 69.2\% |
| 36 | 21.3\% | 80 | 70.6\% |
| 37 | 22.1\% | 81 | 72.0\% |
| 38 | 22.9\% | 82 | 73.4\% |
| 39 | 23.7\% | 83 | 74.8\% |
| 40 | 24.5\% | 84 | 76.2\% |
| 41 | 25.4\% | 85 | 77.7\% |
| 42 | 26.3\% | 86 | 79.1\% |
| 43 | 27.1\% | 87 | 100.0\% |
| 44 | 28.1\% |  |  |

