



United States  
Department of  
Agriculture

Agricultural  
Marketing  
Service

Fruit and  
Vegetable  
Division

# Christmas Trees Market and Shipping Point Inspection Instructions





# **Shipping Point and Market Inspection Instructions for Christmas Trees**

These inspection instructions are specifically developed and designed by the Fresh Products Branch to assist officially licensed inspectors in the interpretation and application of the U.S. Standards for Grades of Christmas Trees, 7 CFR Section 51.3085.

These instructions do not establish any substantial rule not legally authorized by the official grade standards and supersede any previously issued inspection instructions.

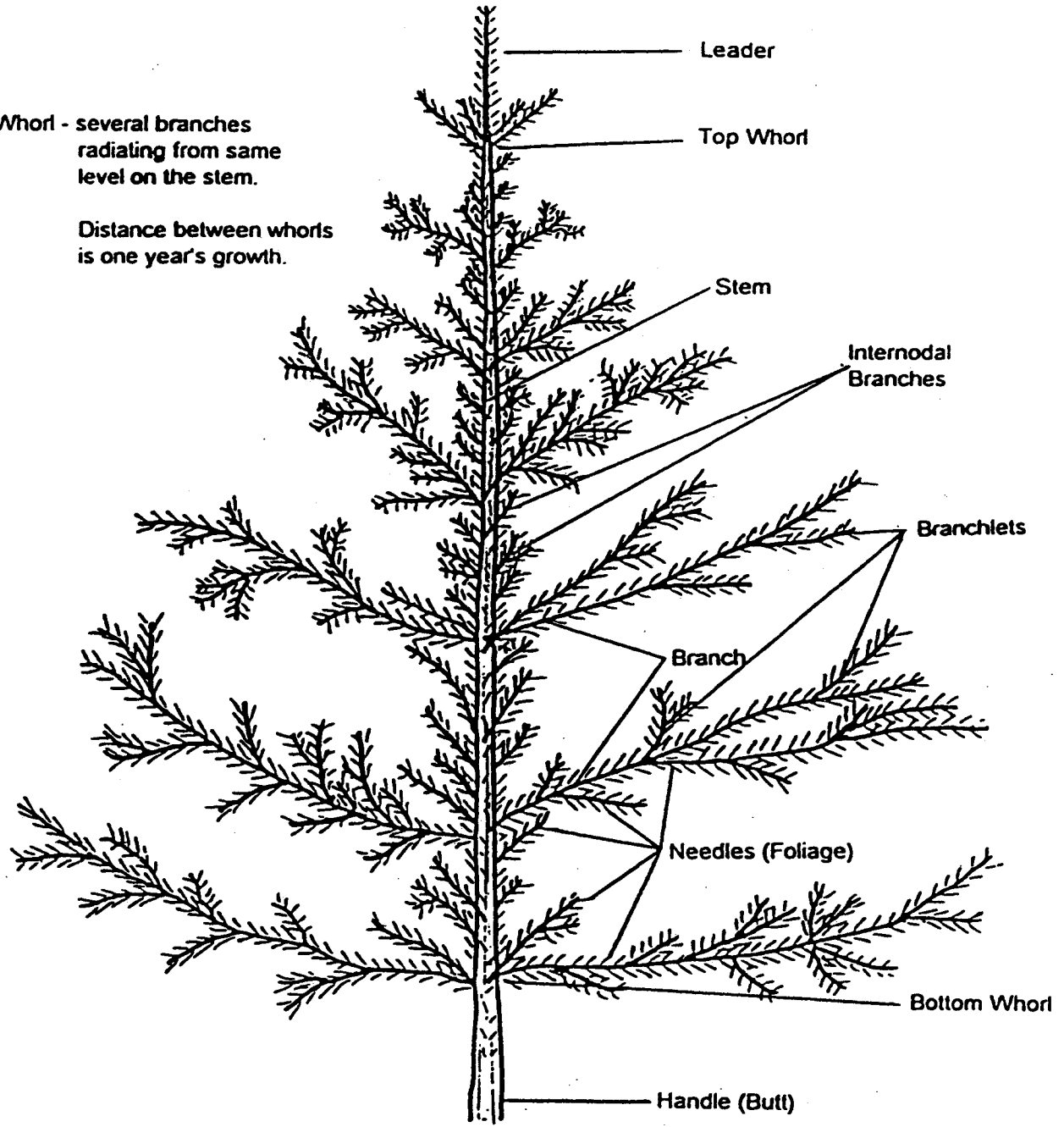
Refer to the General Inspection Instructions for additional information pertaining to date, inspection point, carrier, condition of carrier, lading, etc. not covered in these instructions. (Reference to "General Inspection Instructions" in all Fresh Products Branch publications refers to any one or all of the following - General Shipping Point Inspection Instructions, General Market Inspection Instructions, or Fresh Fruit and Vegetable Inspection Certificate Writing Handbooks.)

**September 1992**

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**Whorl - several branches radiating from same level on the stem.**

**Distance between whorls is one year's growth.**



**Christmas Tree Terminology**

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## (1) Inspection Procedures

Due to the nature of Christmas tree inspections, particularly those performed on cut trees, **assistance from the applicant is required.** (Inspection fees for Christmas trees are determined on an hourly basis.) This will promote accurate grading as well as shorten the inspection time. The applicant should be informed of this at the time the application for inspection is taken. The applicant should supply at least one person to open and hold the trees upright while the inspector(s) examines the tree. For trees graded "on the stump", the applicants personnel could hold the measuring stick so the inspector can accurately determine height. No inspection should be attempted unless the inspector(s) is assisted by at least one other person (applicants personnel.)

Each individual tree sampled must be completely examined. A tree shall be considered as having four faces, each consisting of  $\frac{1}{4}$  of the surface of the tree. The tree must be viewed from a distance of 8 to 10 feet. This is best accomplished by one person holding the tree, (if cut,) while another one or two people (inspectors) walk around the tree, examining each face. *It is not intended that a tree be so closely scrutinized from each individual branch or to bend and move branches to "search out" defects hidden by foliage.* However, if the inspector can recognize a problem from a distance of 8 to 10 feet, but is not sure what the defect is, or the severity of a particular defect, then closer examination will be necessary.

When inspecting bailed, bundled, or tied trees (usually in the markets) be certain that all of the wrapping material has been removed and that the tree is opened up to resemble as closely as possible its original shape.

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## (2) Species

The following lists various species of trees that are commonly grown as Christmas trees. It also gives a brief description of the species growth characteristics.

**Douglas Fir** has needles that are short-stalked, flat, soft, and pliable. They are usually  $\frac{3}{4}$  to  $1\frac{1}{4}$  inches long, dark yellow green or blue-green. The needles are attached all the way around the twig, rather than in a feather-like arrangement as with balsam fir. The buds are reddish-brown, narrowed at the tip and sharply pointed, differing from the rounded blunt buds of true firs. The bark of the tree is dark or reddish-brown. If a Douglas Fir tree has cones, its identification is easy, since the

cones have characteristic long 3-toothed bracts which extend conspicuously beyond the cone scales.

**Balsam Fir** is common on central and eastern Christmas tree markets. This species has needles which are short,  $1\frac{1}{4}$  to  $1\frac{1}{2}$  inches in length, flat, dark green and usually rounded at the tips. The needles are attached at opposite sides on thin grayish, finely hairy twigs. The twigs resemble crosses, that is the tiny twigs on the branches are at approximate right angles. The buds are rounded at the tip and are coated with a distinct waxy patch. If the tree has cones, they are attached upright to the branch and 2 to 3 inches long, purple in color, often resinous, with cone scales usually hiding the bracts (the leaf-like appendages between the cone scales). The Balsam Fir bark is gray or brown, thin, fairly smooth, and often showing many resin blisters. The bark becomes scaly as the tree grows older.

**Red Fir** is native to the mountains of California and Oregon, although it thrives in the Northeastern and North Central States. It is a conspicuously slender tree with rusty colored, hairy young shoots and resinous buds. The needles are four-sided,  $1\frac{3}{4}$  to 3 inches long, and pale bluish-green when young. They change to a dull green when older, and both young and old have faint whitish lines on the upper side and two pale bands on the lower side. The needles form two rows, angling upward on the branchlets and shoots. Needles on the upper side in the middle parts of shoots curve upward. The cones are cylindrical, six to nine inches long and tapered. Young cones are violet-purple in color, and turn brown when mature.

**White Fir** or "Colorado Fir" is native from Colorado to New Mexico. The branches of this species are short, with resinous buds. It is a narrow, rather stiff well foliated tree. The young shoots are hairless. Its needles are flat,  $1\frac{3}{4}$  to  $3\frac{1}{4}$  inches long with faint lines on both sides. Young needles are pale green, but turn dull green with age. The upper surface is slightly convex. The needles form two rows that angle upward, outward and sometimes vertical from the shoots. Cones are from three to five inches long, purplish-green when young, turning brown when mature.

**Fraser Fir**, also known as "Southern Balsam Fir" is native to the Appalachian Mountains. It is similar to the Balsam Fir, except it has shorter needles that are conspicuously notched at their ends.

**Grand Fir** has thin, flexible, deeply grooved needles. They are very dark green on the upper side, and silvery-white on the lower side. The cones are cylindrical, 2 to 4 inches in length, rounded or blunt at the tip, with sharp prickles at the ends.



**Noble Fir** is similar to the Red Fir, except that the needles are flatter, and 1¼ inches or less long. They have two grayish bands on the lower side and fine grayish lines on the upper side. Sometimes the tips are slightly notched. The needles are grooved on the upper side and set irregularly and densely along the shoots. The young shoots are covered in rusty red hairs. Buds are resinous. Cones, 4½ to 10 inches long are cylindrical, green when young, and purplish-brown at maturity.

**White Spruce** has incurved, sharp-tipped needles which are blue-green, four-angled and vary in length from ½ to 1 inch. This tree holds its needles well. When crushed in the fingers, the needles produce a disagreeable odor. White spruce cones are slender, 1½ to 2 inches long, pale brown and shiny with cone scales that are thin, flexible, rounded, and have a smooth margin. The tree bark is gray or reddish-brown, thin and becomes scaly on larger trees.

**Blue Spruce** (also known as "Colorado Blue Spruce") can be identified by its distinctive green to bluish-green needles. They are four sided, rigid, prickly sharp pointed needles, ¾ to 2¼ inches in length. The needles point outward from all around the branchlets and shoots. Cones are cylindrical, 2 to 4 inches long and have thin, flexible scales. They are light brown in color. The bark is deeply furrowed, and the horizontal branches form tiers. Blue Spruce is native from Colorado to New Mexico, Utah and Wyoming. If raised from seed the foliage color varies from green to silvery-blue. When the tree dries out the needles readily drop.

**Eastern Red-Cedar** can be readily recognized. It is familiar to a great number of people because it grows throughout the eastern half of the United States. Like its western cousins, the junipers, it has scale-like leaves and berry-like fruit. The leaves of the Eastern Red-Cedar are only ⅛ inch long, dark blue-green but on the needle like leading shoots they may be up to ⅜ inch long. The leafy twigs are rounded or four-angled, and slender. The tree may bear fruit like a berry, which is dark blue and ¼ to ⅜ inch in diameter. The trunk is covered with reddish-brown, thin, fibrous, shredding bark.

**Norway or Red Pine** has increased tremendously in popularity. Needles are 4 to 6 inches long, dark green, rather slender and flexible, flat on one side and rounded on the other.

**White Pine** is also known as "Eastern White Pine." The branches are horizontal. The young shoots have some hairs and soft flexible gray-green needles, 2 to 4½ inches in length. The needles are in clusters of five. The cones are spindle

shaped, and usually curved, 3 to 8 inches long. They are native to the Eastern U.S. and Eastern Canada.

**Virginia Pine** is also known as "Scrub Pine" for its scrubby or straggly appearance of the tops. It has slender, horizontal drooping branches and purplish, young shoots. The needles are two to a bundle, twisted, rigid and usually 3 inches in length. Cones are up to 3 inches in length with scales that end in a sharp point. They are native in the Eastern U.S., from New York to Georgia and Alabama.

**Scotch Pine** is not native to the United States. Scotch pine needles are in clusters of two, grayish-green to blue-green in color, usually twisted, and from 1 to 4 inches long. Cones are not common on trees of Christmas tree size. When found, they are 1½ to 2½ inches long, yellow brown with minute prickles on the cone scales. The bark of older Scotch pine trees is distinctly reddish-brown to salmon pink, a characteristic which often shows up on trees of Christmas tree size. Trees of this species found on the market come from planted stock. With enough open space, it grows into a shapely tree, (like other evergreens grown under similar conditions). It responds well to pruning and shearing and can thus be made bushy.

Most pines have considerably longer needles than those of Balsam Fir, Douglas Fir, Spruce and Eastern Red-cedar. However, short needled pine strains such as the French and Spanish have been developed.

There are other species of lesser importance from a commercial standpoint that may be inspected, but are not described above. They include various spruce, fir, and pine species.

**Shearing.** The standards are applicable to either sheared or unsheared trees. Sheared trees generally have had the ends on many to nearly all of the branches cut off. This forces lateral growth and thus increases density. The amount of the limb that is cut off is based upon the overall shape of the tree, the degree of openness, and the extent of deformities. Shearing resembles the operation of shaping a hedge and is generally practiced on trees of the pine family. However, most fir and spruce trees are also sheared to improve shape and appearance.

**Pruning.** This generally means the removal of defective branches, extra leaders and some of the bottom branches or the bottom whorl of branches. The removal of the bottom branches decreases the rate of growth of the central leader and increases the growth of internodal branches. Pruning is generally most extensively practiced on firs and spruces.

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### **(3) Sampling**

***Representative Sampling.*** Too much emphasis cannot be placed on the importance of the inspector obtaining representative samples. Accurate certification is possible only if the samples examined are truly representative of the entire lot or accessible portion. All portions of a lot or load should receive the same attention in sampling regardless of the difficulty involved in reaching the more inaccessible layers or parts of a load.

All percentages shall be calculated on the basis of count, using the individual tree as the unit. Whether trees are individual (cut or "on the stump") or in bundles, representative samples must be selected for inspection. All trees within a bundle or any portion of the bundle may be inspected.

No definite rules can be laid down as to the number of samples which should be examined because of the variations in conditions that the inspector may encounter.

**As a guide,** a minimum of 25 trees for a lot of 500 (5 percent) should be inspected. More trees should be selected and examined when necessary. The inspector must be sure that a sufficient number of trees have been examined so that the certificate issued will give an accurate description of the lot.

When inspecting "on the stump," the inspector should have a clear plan as to which trees will be chosen for inspection prior to actually viewing the trees. This will eliminate selecting the easiest and most convenient trees to reach. For instance, every tree in every 4th row, or every 3rd tree in every row, etc.

Refer to the General Inspection Instructions for information not covered in this section.

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### **(4) Tolerances and Application of Tolerances**

The established tolerances apply to the lot as a whole. The inspection consists of taking a representative sample of the trees in the lot and reporting the percentages obtained. There is no "application of tolerances" as with other inspection commodities.

In order to allow for variations incident to proper sizing, grading and handling in each of the grades the following tolerances, by count, shall apply when a lot of

Christmas trees is required to meet a specific grade:

Total defects	. . . . .	10%
including:	Off-size (height specified)	. . . . .05 %
	Off-length handle	. . . . .10 %
	Defects	. . . . .10%

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### (5) Heading on Notesheet

Detailed instructions pertaining to date, inspection point, place of inspection, etc., which are not covered by these instructions may be found in the General Inspection Instructions. Additional information and instructions may be given by your supervisor.

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### (6) Products Inspected

The following should be considered:

- Species
- Distinguishing Marks
- State or Country of Origin, if known
- Quantity Inspected

**Species.** Few inspectors are qualified to determine the species of trees, therefore, the species (variety) should only be quoted if it is stamped on tags or otherwise marked on the trees, or if stated by the applicant. It is satisfactory to describe the shape, arrangement, color and length of the needles.

If a lot of trees is of a definite mixture of species, a sufficiently detailed description should be given to justify either separating the species into separate lots; or reporting the lot as failing to grade account of a mixture of species if the tolerance is exceeded.

Report "Christmas Trees" in the "Product" section of both the notesheet and certificate. The species, if quoted on the authority of someone other than the inspector, can also be reported.

***Distinguishing Marks.*** Some states require trees to be tagged as to the shipper's name and address. These tags may also mention species, shipper's brand or other information. The trees may also have a letter or number marked on the butt, a color tag attached, or a color may be painted around the butt of the tree. This information should be quoted on the notesheet and certificate.

***State or Country of Origin.*** The inspector should not make a positive statement on his/her own authority, but when shown on tags, or otherwise marked on the trees, or stated by the applicant, it should be quoted.

***Quantity Inspected.*** The number of trees, whether individual, in bundles, or on the stump should be reported in the "number of containers" block on the notesheet and certificate as total number of trees. For example: 600 trees. The quantity should always be shown in individual trees.

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## **(7) Kind of Carrier and Condition of Load**

Christmas trees can be shipped in several types of carriers, including rail cars, refrigerated, open, closed, or flat bed trucks and trailers. Since Christmas trees are not shipped in containers some points need to be addressed. These include: arrangement of the load (upright, stacked, reversed), disarrangement (bundles broken open), and how the trees and bundles are tied in the load (securely or loosely tied) or not tied (loose). Securely tied means that a sufficient number of ties have been made to include all loose branches, and the bundles are firmly tied with suitable twine. It should be noted if branches are protruding or bundles are loosely tied.

Refer to the General Inspection Instructions for general information concerning condition of load.

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## **(8) Temperature of Product**

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Inspectors do not have the equipment necessary to take "pulp" temperatures on Christmas trees. Therefore, in general, temperatures shall not be taken for lots of Christmas trees. However, occasionally temperatures are significant. At the specific request of the applicant, or if the inspector suspects temperatures to be a factor (due to such defects as discolored needles and/or excessive shedding) air temperatures within bundles or between branches can be reported at destination. It must be noted on the notesheet and certificate that the temperatures are AIR temperatures, not pulp temperatures. Temperatures shall not be taken for trees inspected "on the stump."  
\*\*\*\*

## (9) Size

Size can be reported in a number of ways, including: range in height of individual trees, range in height of trees per bundle, number of trees per bundle, uniformity of size (height) per bundle, handle length, and diameter of butt.

**Height of Trees.** Unless otherwise specified, the following color codes will be used to designate the respective sizes:

Lime . . . . .	3 feet or less
Orange . . . . .	Over 3 to 4
Blue . . . . .	Over 4 to 5
Red . . . . .	Over 5 to 6
Yellow . . . . .	Over 6 to 7
Green . . . . .	Over 7 to 8
White . . . . .	Over 8 to 9
Pink . . . . .	Over 9 feet

These color codes may be seen in a variety of ways. Most commonly however, the trees will be tagged with a color coded ribbon or tag, or in the markets the butts of the trees may be painted with the designated color to indicate the corresponding size.

Even though these colors have a specific size range, the applicant can specify other heights. Also, for example, if a yellow tag (used to designate over 6 to 7 feet in the standard) is printed with a different height, the printed height becomes the size designation ("unless otherwise specified" clause of the standard).

In determining which designations apply, the measurement for height is the distance from the base of the handle, or ground level if trees are inspected "on the stump" to the top of the main leader, excluding that portion of the leader that extends more than 4 inches above the apex of the cone of the taper applicable to the tree. Keep in mind that seventy-five percent (75%) of the branches must touch or overlap the line of the cone.

Illustration I, page 12 shows the significant points when measuring height. Do not score long leaders (that portion of the leader longer than the 4 inches above the apex of the cone) as a defect.

Additionally, in any size range, a minimum of  $\frac{1}{3}$  of the trees in a lot shall be in the top half of that size range. For example, trees with yellow tags (over 6 to 7 feet) must have at least  $\frac{1}{3}$  of the trees in the lot from 6½ to 7 feet. If less than  $\frac{1}{3}$  of the trees in the lot are in the top half of the size range, the lot would fail to meet the grade specified account of off-size.

The size (height) of trees shall be stated in foot increments on the certificate. The actual height should be recorded in foot and half-foot increments on the notesheet. Since trees will rarely be exactly in foot or half-foot increments, the height should be rounded to the nearest half-foot within the foot range that it meets. For example in the "over 6 to 7 feet" range, if the exact measured height is 6 feet or 6 feet and 1 or 2 inches, record it as 6 feet; if the exact height is 6 feet and 3, 4, 5, 6, 7, or 8 inches, record it as 6 and one half feet; if the exact height is 6 feet and 9, 10, 11 inches or 7 feet, record it as 7 feet.

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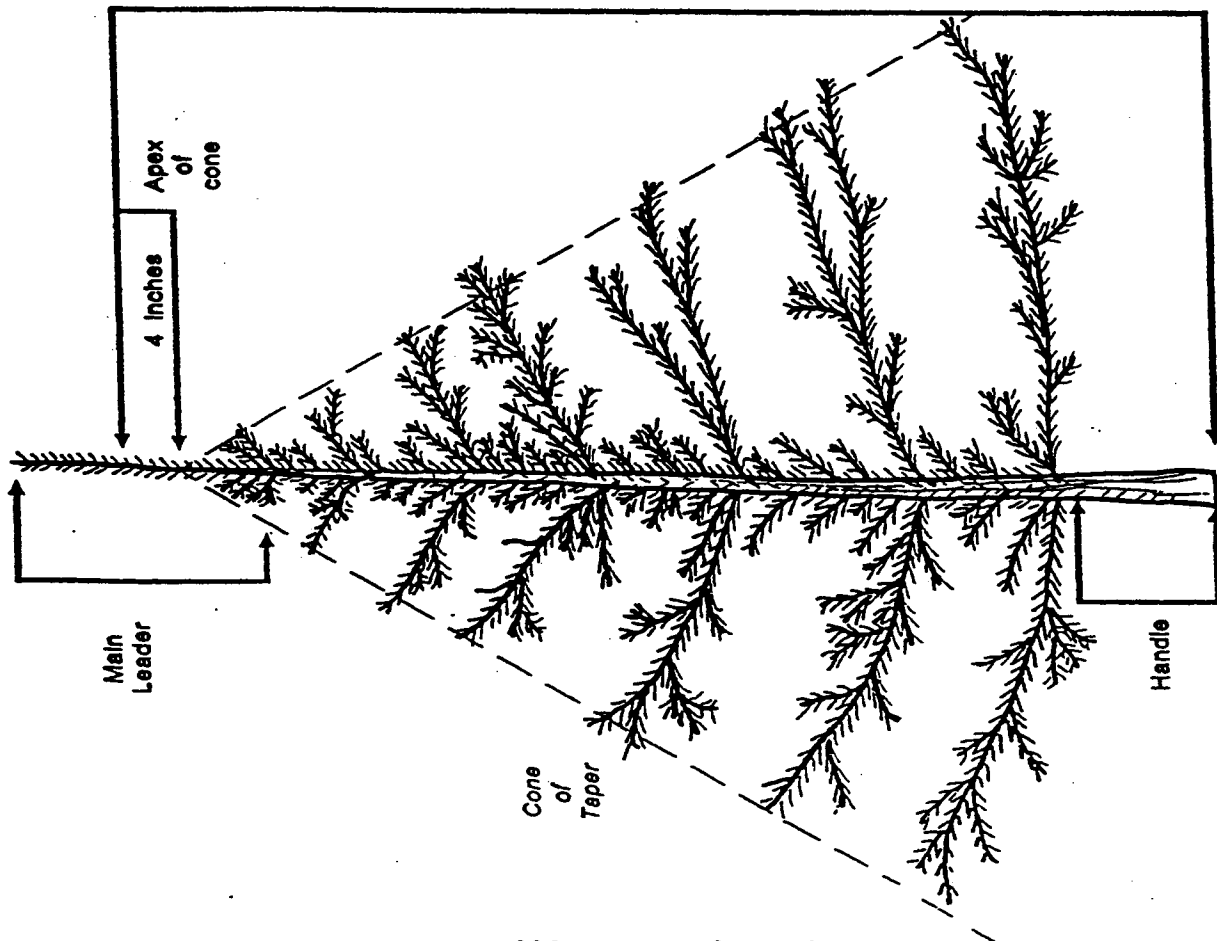
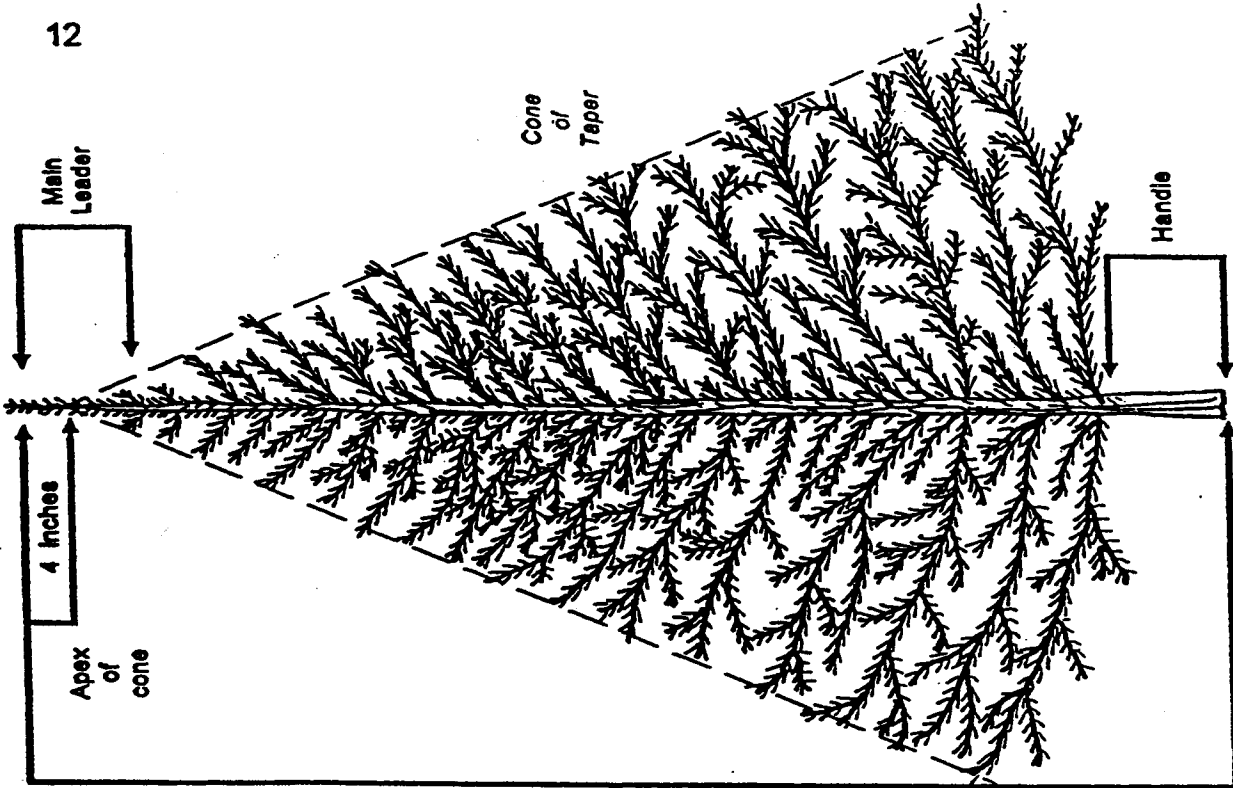


Illustration I.



**Number of Trees Per Bundle.** The number and range of trees per bundle and the range in height can be reported if the trees are bundled with some type of rope or twine. The height and density of trees usually determines the number per bundle.

2 feet or less . . . . .	packed 10-12 per bundle
2-4 feet . . . . .	packed 7-8 per bundle
4-6 feet . . . . .	packed 5-6 per bundle
6-7 feet . . . . .	packed 4 per bundle
6-8 feet . . . . .	packed 3-4 per bundle
7-8 feet . . . . .	packed 3 per bundle
8-10 feet . . . . .	packed 2 per bundle
Over 10 feet . . . . .	packed individually

**Uniformity of Size.** Uniformity of size is not a requirement of the grades. However, the trade generally desires this information for trees that are bundled. Larger trees are generally tied individually, therefore uniformity of size is a factor only for those bundles which contain more than one tree.

Trees that vary no more than 6 inches in length, within bundles, shall be considered uniformly sized. Those that vary more than 6 inches but not more than 24 inches shall be considered fairly uniformly sized. Trees that vary more than 24 inches in length shall be reported as irregular in size. Uniformity of size shall be reported using general terms unless specifically requested to show specific heights. For example: In most bundles trees uniform, in some bundles trees fairly uniform.

**Handle length.** Unless otherwise specified, handle length may not be less than 6 inches or more than 1½ inches for each foot of tree height. If handle length is met based on this requirement or on a specified length, the handle length is proportionate to the height. If the handle length is not proportionate to the height (less than 6 inches, more than 1½ inches for each foot of tree height, or not meeting a specified length) it shall be reported as "off-length handle" and scored against the 10 percent tolerance for off-length handle. For trees graded "on the stump," (trees uncut, still attached to the root system), handle length is not a requirement of the grade.

Since there is no requirement for handle length for trees graded "on the stump," a lot of trees could grade 100 percent for the grade inspected for "on the stump," but once cut and delivered to the market show trees with an off-length handle, which

is a noticeable defect. If market inspectors come across this situation, special attention should be paid to shipping point inspection certificates or other documentation that could verify handle length prior to shipping, or whether a shipping point inspection was performed "on the stump."

Tree Height	Minimum Handle Length	Maximum Handle Length
3 feet . . . . .	6 inches . . . . .	6 inches
4 feet . . . . .	6 inches . . . . .	6 inches
5 feet . . . . .	6 inches . . . . .	7.5 inches
6 feet . . . . .	6 inches . . . . .	9 inches
7 feet . . . . .	6 inches . . . . .	10.5 inches
8 feet . . . . .	6 inches . . . . .	12 inches
9 feet . . . . .	6 inches . . . . .	13.5 inches
10 feet . . . . .	6 inches . . . . .	15 inches

Handle length for 3 and 4 foot trees will probably be specified.

Inspections are sometimes performed during the loading process. Occasionally, the shipper may re-trim the butts at this time, changing the handle length of the trees *after* the inspection is complete. If the inspector is absolutely certain of this situation, a statement of the facts can be made on the notesheet similar to: "inspector observed handles being trimmed on most (many, some, etc.) trees after inspection, prior to or during loading."

**Diameter of butt.** If the diameter of the butt is requested, this may be shown either by individual trees or by bundles. The diameter is determined by measuring the greatest distance across the butt at right angles to the stem (handle). If requested, this shall be shown to the nearest ¼ inch.

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## (10) Quality, Condition and Defects

Statements pertaining to density, taper, trimming, shape, freshness, color and the amount and kind of defects are shown under the appropriate headings. Those factors noted with one asterisk (\*) shall be reported as **CONDITION** factors on market certificates. Those factors noted with two asterisks (\*\*) may be considered as **QUALITY** or **CONDITION** depending on the circumstances.

**Face.** Face means the visible area of a tree as viewed from a distance of 8 to 10 feet from the tree. A tree shall be considered as having four faces, each consisting of  $\frac{1}{4}$  of the surface of the tree, and for this reason the inspector must view each face of the tree in order to make a complete inspection. In general, defects are considered to affect the appearance of one or more faces of a tree, however, a given defect may be scored only once.

**Butt trimming.** All three grades require the butt (handle) to be trimmed, except for trees graded "on the stump." This means that all barren branches shall have been removed, and the trunk has been smoothly cut at approximately right angles to the trunk. Smoothly cut at approximate right angles means the cut surface shall not be jagged, and the angle shall not be more than 20 to 25 degrees from the perpendicular. A barren branch is a branch with no foliage or needles remaining, usually the lowest branches on the tree. A tree with a "poorly trimmed butt" will be scored as a cull.

**Shape.** All three grades require the trees to be well shaped. This means that the tree is not flat on one side and the branches of the tree, whether sheared or unsheared, are of sufficient number and length to form a conical outline tapering from the lowest whorl of branches to the top. If a tree does not meet the definition of well shaped it will be a cull, and reported as "not well shaped."

**Density.** Density refers to the amount of foliage present on a tree (percent of main stem covered), and can be determined starting at the bottom whorl of branches continuing to the top of the main leader. Factors contributing to the degree of density are: the number and size of branches within the whorls, distance between whorls, number and arrangement of the branchlets on each branch, the extent of internodal branching, needle arrangement, and needle length.

Species characteristics must be considered when judging density. Species differ in their habit of growth and some species do not have internodal branches, such as White Pine and Scotch Pine. By shearing trees, the number of branchlets or side branches may increase. The rate of growth can be controlled so that the tree appears to have a heavier density, depending on the extent of such growth. Some species will show sparse growth, with few internodal or side branches. Pruning and/or shearing can correct this by increasing internodal or lateral branching. Unsheared trees will not normally be as dense as sheared trees of the same species. Also keep in mind when judging the evenness of density that *trees are not normally as dense in the top or at the tips of branches*. This applies to both sheared and unsheared trees, but particularly to unsheared trees.

The U.S. Premium, No. 1, and No. 2 grades require not less than heavy, medium, or light density, respectively. Trees can also exhibit "uneven density," which will appear on a tree as variations in density (heavy, medium, light) throughout individual trees from bottom to top or from face to face. This is a quality defect and shall be scored as a minor or noticeable defect, or as a cull depending on the severity.

The following terms should be used to describe density: "Heavy density" means the whorls or branches are relatively close together, the spaces between are filled with needles and twigs so that the following species have the corresponding percentage of foliage so the main stem is not visible and the needle content and length are adequate to cover the branches:

Name	Percentage of Main Stem Covered
Red Cedar . . . . .	90 to 100%
Balsam Fir . . . . .	80 to 100%
Douglas Fir . . . . .	90 to 100%
Fraser Fir . . . . .	70 to 100%
Red Fir . . . . .	60 to 100%
White Fir . . . . .	70 to 100%
Grand Fir . . . . .	80 to 100%
Noble Fir . . . . .	60 to 100%
Red Pine . . . . .	70 to 100%
Scotch Pine . . . . .	90 to 100%
Virginia Pine . . . . .	90 to 100%
White Pine . . . . .	90 to 100%
Spruce (all) . . . . .	80 to 100%

For species not specifically listed in the standard "heavy density" will mean for:

- other Cedar species . . . . . 90-100 percent of main stem covered
- other Fir species . . . . . 60-100 percent of main stem covered
- other Pine species . . . . . 70-100 percent of main stem covered

**"Medium density"** means the whorls or branches are reasonably close together, the spaces between are filled with twigs and needles so that the following species have the corresponding percentage of foliage so the main stem is not visible and the needle content and length are adequate to cover the branches:

Name	Percentage of Main Stem Covered
Red Cedar . . . . .	.70 to 90%
Balsam Fir . . . . .	.60 to 80%
Douglas Fir . . . . .	.70 to 90%
Fraser Fir . . . . .	.50 to 70%
Red Fir . . . . .	.50 to 60%
White Fir . . . . .	.50 to 70%
Grand Fir . . . . .	.60 to 80%
Noble Fir . . . . .	.50 to 60%
Red Pine . . . . .	.60 to 70%
Scotch Pine . . . . .	.70 to 90%
Virginia Pine . . . . .	.70 to 90%
White Pine . . . . .	.70 to 90%
Spruce (all) . . . . .	.60 to 80%

For species not specifically listed in the standard "medium density" will mean for:

other Cedar species . . . . .	70-90 percent of main stem covered
other Fir species . . . . .	50-90 percent of main stem covered
other Pine species . . . . .	60-90 percent of main stem covered

**"Light density"** means the whorls or branches are reasonably spaced, the spaces between are only partially filled so that the following species have the corresponding percentage of foliage so the main stem is not visible and the needle content and length are adequate to cover the branches:

Name	Percentage of Main Stem Covered
Red Cedar . . . . .	.50 to 70%
Balsam Fir . . . . .	.40 to 60%
Douglas Fir . . . . .	.50 to 70%
Fraser Fir . . . . .	.40 to 50%
Red Fir . . . . .	.40 to 50%
White Fir . . . . .	.40 to 50%
Grand Fir . . . . .	.40 to 60%

**Light density, continued**

Name	Percentage of Main Stem Covered
Noble Fir . . . . .	40 to 50%
Red Pine . . . . .	40 to 60%
Scotch Pine . . . . .	50 to 70%
Virginia Pine . . . . .	50 to 70%
White Pine . . . . .	50 to 70%
Spruce (all) . . . . .	40 to 60%

For species not specifically listed in the standard "light density" will mean for:

other Cedar species . . . . .	50-70 percent of main stem covered
other Fir species . . . . .	40-70 percent of main stem covered
other Pine species . . . . .	40-70 percent of main stem covered

Density or lack of density always affects one or more faces of a tree. It is difficult to explain or define the characteristics of what makes a good face without including statements of explanation which would be more appropriate in describing density. This similarity and overlapping of definitions can be confusing. For example, uneven density in any part of a tree will usually affect one or more faces. A decided gap and unduly long branches will also effect density and one or more faces of a tree. A lack of density affecting one face is quite often due to a lack of a sufficient number of branches in a whorl. This condition leaves a hole in a face of the tree. When more than one face is affected by lack of density it is usually due to an insufficient number of branchlets.

When determining density on cut trees, refer to the section on "Density and Taper After Cutting," page 19.

**Taper.** Taper refers to the relationship of the width of the tree at its lowest branches to the height of the foliated portion of the tree. The handle of the tree must be disregarded when judging taper. Taper should always be judged from the "best side" or face of the tree. Also keep in mind that at least 75 percent of the branches must touch or overlap the line of the cone. [See Illustration I on page 12 showing the "Cone of Taper."]

All three grades require trees to have a "normal taper." This means that all trees shall form a cone, the base of which is from 40 to 100 percent of its height. To figure the taper of a tree divide the width of the lowest whorl of branches by the height of the tree (excluding the handle). For example: a tree 8 feet tall (excluding the handle)

with its lowest whorl of branches 4 feet wide has a taper of 50 percent. [See illustration on page 8 of the standard showing Christmas Tree Taper.]

Trees that have a taper of less than 40 percent shall be described as "candlestick." Trees that have a taper of more than 100 percent shall be described as "flaring." Both candlestick and flaring tapers are defects of all grades.

Pine trees do not generally grow to form a cone shape, but more nearly resemble a teardrop. The bottom whorl of branches may be shorter than the branches on the adjacent one or two whorls. This is typical of the pine species, and should not be considered in determining taper unless the condition is excessive. If the branches on the bottom whorl are more than 10 inches shorter than the branches on the adjacent one or two whorls, this would be considered excessive, and therefore the branches on the bottom whorl should be used to determine the taper. The fir trees generally resemble a cone in shape while the spruce normally falls somewhere between the pines and firs in regards to taper. Trees are seldom symmetrically perfect, so it is suggested that the tips of a few lateral branches be ignored when judging taper. Also, remember, 75% of the branches must touch or overlap the line of the cone.

***Density and Taper After Cutting. (\*\*)*** Density and taper of trees after they are cut, tied, stacked and shipped, and also exposed to snow and rain is often different than before trees have been cut. Density and taper are almost always quality factors, however, they may be considered condition factors if the trees have sustained substantial fresh mechanical damage. When judging density and taper after trees are cut, either at shipping point or destination, always shake the trees out. It may also be necessary to bend some branches down. This is important and must be followed prior to inspecting the trees to be certain that density and taper of cut trees is similar to what they were prior to being cut.

In extremely cold weather it may be necessary for the applicant to provide some type of heat and shelter so that the trees may be thawed out or warmed up before density and taper can be accurately determined.

***Foliage. (\*\*)*** The foliage of a tree should be described in terms of its freshness, cleanness, and healthiness. The U.S. Premium grade requires the foliage to be fresh, clean and healthy, while the U.S. No. 1 and U.S. No. 2 grades require fresh, fairly clean and healthy foliage.

"Fresh" means the needles are green (or color characteristic for the species), pliable, and firmly attached; with not more than slight shedding. "Clean" means the

tree is reasonably free from foreign material, while "fairly clean" means that the tree is moderately free from foreign material. "Healthy" means the needles have a fresh, natural appearance characteristic of the species.

**Painted trees.** Sometimes trees are painted either before or after being cut. Painted trees may be inspected and certified as to one of the U.S. grades. However, painted and unpainted trees must be inspected as separate lots. A lot of trees will fail to meet the requirements of any of the U.S. grades when the appearance is materially affected because of being painted to such a degree that the branchlets or branches are excessively covered, when the needles are matted together, or when the shade of green (or other) color is not characteristically typical of the species. See the section on "Foreign Material," page 23.

**Defects.** Christmas trees can show several defects if the trees are examined closely from top to bottom, and along each branch. *However, it is intended that trees shall be inspected from a distance of eight to ten (8 to 10) feet from each tree.* If defects or problems are apparent from this distance, closer examination may be necessary to determine the severity of such defects.

There are three degrees of defects - "minor," "noticeable," and "severe" (or culls). A tree will grade U.S. Premium, U.S. No. 1, or U.S. No. 2 depending on the number and degree of defects affecting one or more faces. There are certain specific defects which do not affect a face, such as off-length handle or poorly trimmed butt, and others that affect every face such as multiple leaders. All are scoreable defects.

**Minor defects** are slight imperfections in the development (growth habits) of the tree or defects resulting from handling, which materially affect the appearance of the tree. **Noticeable defects** are imperfections in the development (growth habits) of the tree or defects resulting from handling, which seriously affect the appearance of the tree. **Severe defects** are culls in all of the grades. They very seriously affect the appearance of the tree.

Tables I and II in the standard list defects that can affect one or more faces of a tree. The various defects are specifically defined as minor, noticeable or culls. It is important to remember that a single defect, although it may be visible from more than one face can be scored only once. Factors that could be scored as defects include: density, curvature of main stem, insect or disease damage, broken branches, physical damage, foreign material and/or vines, multiple leader stems, extra long branches, abnormal curling of needles, weak lower branches, handle not proportionate to height, incomplete whorl of branches, holes or gaps in tree, gooseneck, and loss of needles.



**Uneven density.** Keep in mind that a tree with no defects but with medium density will only grade U.S. No. 1. Likewise a tree with light density will only grade U.S. No. 2. Heavy density is required for the U.S. Premium grade of trees.

Uneven density is classified as slight, moderate or severe. The density will be considered uneven as viewed from bottom to top, or side to side on an individual tree. Because of the possibility of side to side uneven density, the inspectors should ensure that they communicate the degree of density to each other during the inspection of each tree. Also remember that it is characteristic for trees to exhibit a somewhat lighter density at the tops. This should not be scored as a defect unless it is to such a degree as to materially affect the appearance of the tree.

For a tree to be considered as exhibiting a degree of uneven density it would have to show more than one density. For example: Medium density on the bottom half and heavy density on the top half; or light density on two adjacent faces with medium density on the remaining two; or heavy density on the middle of the tree, with medium or light on the top and bottom.

If the difference in density materially affects the appearance of the tree it would be a minor defect. If the difference severely affects the appearance of the tree it would be a noticeable defect, and if very severely affecting the appearance, it would be a cull.

Examples of what could be considered minor defects (slightly uneven density) include: Heavy density on the bottom portion and the next degree of density (medium) on the remaining portion of one or two adjacent faces; medium density on one face, and the next degree of density (heavy or light) on the remaining faces.

Examples of what could be considered noticeable defects (moderately uneven density) include: Medium density on the bottom portion of the tree and heavy or light density on the remaining portion, all faces affected; medium density on two adjacent faces, another density on the remaining faces .

Examples of what could be considered culls (severely uneven density) include: Heavy or light density on the bottom half of the tree and the opposite degree of density (light or heavy) on the remaining portion, two or more faces affected (not necessarily adjacent faces); medium density affecting a quarter to a third of all faces of the tree, heavy density affecting the next quarter or third, and light density affecting the remaining portion.

The above situations are examples, and do not represent the only combinations that could be scored as uneven density.

Score as a **minor defect** slight uneven density; as a **noticeable defect** moderately uneven density; as a **severe defect** severely uneven density.

**Curvature of the main stem.** The main stem (trunk) of the tree may be curved or crooked (in one direction). This is usually found in the top portion of the main stem, but can occur in the lower portion. If the curve is in the lower part of the foliated portion of the tree, or the handle, it may prevent the tree from standing upright when placed in a stand. Curvature of the main stem should be judged from the face with the most obvious curve. Do not confuse it with a "gooseneck," see page 26.

Score as a **minor defect** a slight visible crook in the main stem (4 inches or less from vertical); as a **noticeable defect** if the main stem is visibly curved more than 4 inches, but less than 6 inches from vertical; as a **severe defect** if the main stem is curved more than 6 inches from vertical.

**Insect or disease damage. (\*\*)** Insect and disease damage can appear in several forms. Dry, and/or discolored branches, branchlets, twigs, or needles can be an indication of disease infection or insect feeding. Occasionally live and/or dead insects or insect feeding may be found, including insect infestation. This can be found on the needles, the twigs, branchlets, branches and on the main stem. It can also be found in the form of curling of the needles. Use the general rule for reporting insects as quality or condition factors.

Score as a **minor defect** slight insect or disease damage; as a **noticeable defect** moderate insect or disease damage; as a **severe defect** severe insect or disease damage.

**Broken branches. (\*\*)** These can be either Quality or Condition defects. They are usually caused by rough handling either in the field, or in transit. Broken branches will be considered quality if the break is old, dried out, or covered over with old sap from the tree. They will be considered fresh if the break is fresh, with the broken portion still somewhat pliable and "green." Fresh sap may also be present.

\*\*\*\*  
Score as a **minor defect** one broken whorl branch near the main stem; as a **noticeable defect** a broken leader or more than one broken whorl branch adjacent the main stem; as a **severe defect** the main stem broken below the top whorl or more than three branches broken near the trunk.

\*\*\*\*  
**Physical damage. (\*\*)** Physical damage should be treated the same as broken branches when determining if the damage should be reported as quality or condition. It can be caused by rough handling or treatment such as: branches or main stem damaged by mowing equipment (while in the field), motor vehicle damage to lower branches, skinned or torn branches or main stem, branches being pruned or sheared too closely to the main stem. It should be remembered that most branches may have been cut when the trees were pruned, sheared or shaped. Such cuts are generally normally made to improve the appearance, density, taper or balance of the tree. Old cuts caused by shearing or pruning which detract from the appearance should be scored as quality factors. **Fresh mechanical damage** to branches, badly skinned butts and main stem (torn or missing bark) shall be considered condition factors if the inspector believes the injury occurred in transit or at destination.

Score as a **minor defect** slight physical damage (affecting one branch); as a **noticeable defect** moderate physical damage (affecting the leader, the handle, or more than one branch); as a **severe defect** severe physical damage (affecting the main stem below the top whorl or more than three branches).

**Foreign material and/or vines. (\*\*)** This could include, but is not limited to, moss, lichen growth, vines birds nests, weeds, and grass. Small amounts of moss, lichen growth, vines, broken seed cones or other foreign material, including a single small (4 inch) intact birds nest may not be scoreable against any grade. However, if present in larger amounts or if no longer intact, they would be scored against one of the grades as foreign material.

Trees that are painted to such a degree as to materially affect the appearance should be scored as "foreign material" (excessive paint, see section on "Painted trees," page 20). Trees that show any amount of "flocking" should be scored as foreign material. (Flocking is the practice of spraying trees with a material to give the appearance of snow.)

Score as a **minor defect** a slight amount of foreign material or vines; as a **noticeable defect** a moderate amount of foreign material or vines; as a **severe defect** a heavy amount of foreign material or vines.

**Multiple leader stems.** If a tree has more than one leader stem it should be scored as "multiple leader stems." This can occur if the trees are not sheared or pruned properly. The leader stems radiate from a point at or above the top whorl of branches. If multiple leader stems form a crows nest at the top it should be scored as a noticeable defect. A crows nest is several leaders radiating from the top whorl. A heavy density tree with multiple leaders and no other defects would grade U.S. Premium. However, any other minor defect would cause the tree to drop a grade because multiple leaders affect all faces.

Score as a **minor defect** multiple leaders (more than one leader); as a **noticeable defect** a crows nest. Multiple leader stems can not be scored as a cull.

**Multiple stems.** Multiple stems must not be confused with multiple leader stems. The multiple stems will radiate from a point on the main stem below the top whorl of branches. This usually results from improper pruning or shearing on a previous year's growth, or other damage to the growing point. It will usually cause the tree to have more than one top (below top whorl) or main stem. Multiple stems will always be scored as a cull.

Score as a **severe defect** multiple stems (more than one stem).

**Extra long branches.** As the name suggests, these are branches that are considerably longer than the other branches on the same whorl. Do not compare the length of branches from one whorl to another. This is not in reference to the main leader. The main leader can be any length. Extra long branches are a result of improper or inadequate shearing. They can only be scored as minor defects.

Score as a **minor defect** a branch over ten (10) inches longer than other branches on the same whorl.

If more than one branch on the same whorl can be considered as "extra long branches," the inspector should re-evaluate the overall shape and taper of the tree. It may be these two factors (shape and taper) that are defective rather than the length of the branches.

**Abnormal curling of needles. (\*\*)** This can be caused by several factors, including: insects, diseases, high temperatures, or excessively dry conditions. Slight, moderate and severe amounts of abnormal curling pertains to the quantity of needles curling on a tree as well as to the degree of curling of the needles.

Score as a **minor** defect slightly abnormal curling of the needles; as a **noticeable** defect moderately abnormal curling of the needles; as a **severe** defect severely abnormal curling of the needles.

**Weak lower branches. (\*)** This pertains to the foliated branches on the bottom whorl of the tree. Ideally, the lower whorl of branches will be as strong and upright as the other whorls on the tree. If the branches are limp, wilted, or dragging they would be considered weak. Weak lower branches will not be considered as minor defects, they will always be scored as at least a noticeable defect. If the lower branches are **barren**, they should be scored against the requirement for "butt trimming" in all grades.

Score as a **noticeable** defect weak lower branches affecting up to  $\frac{3}{4}$  of the branches on the bottom whorl; as a **severe** defect weak lower branches affecting more than  $\frac{3}{4}$  of the branches on the bottom whorl.

**Handle not proportionate to height.** If the handle length and height of the tree do not correspond with those found on page 14, the handle will not be proportionate to the height. This will only be a factor for trees that are inspected after being cut. It will always be scored as a noticeable defect.

Score as a **noticeable** defect the handle length not proportionate to the height of the tree (unless otherwise specified, not less than 6 inches, and not more than 1½ inches per foot of height).

**Incomplete whorl of branches.** The main stem should have branches all the way around it on each whorl. An incomplete whorl can result from poor bud set during a particular year's growth, or because of improper pruning. In the case of poor bud set, branches never formed on the main stem. If improperly pruned, the branches in the whorl were pruned away. It should not be confused with holes or gaps in the tree.

Score as a **minor** defect less than  $\frac{1}{4}$  of the branches missing in a whorl; as a **noticeable** defect  $\frac{1}{4}$  but less than  $\frac{1}{2}$  of the branches missing in a whorl; as a **severe** defect more than  $\frac{1}{2}$  of the branches missing in a whorl, or when the missing branches create a shelf.

**Holes or gaps in tree.** These are a result of the branches and/or branchlets not filling out completely (possibly because of improper shearing or pruning, a poor year's growth, or deformed branches) causing holes or gaps to be visible. If the inspector can see through the tree, either to the main stem, or straight through to the other side the defect should be considered a **hole**. If the inspector can see spaces in the tree, usually near the ends of the branches, these are **gaps**. Gaps can also be the result of branches on adjacent whorls being too far apart. If the whorls are considerably far apart, or the length of the branches from one whorl to the next is considerably longer than the other it would be a shelf or decided gap or space.

Score as a noticeable defect a hole in the tree or space that is considerably out of proportion with the uniform characteristics of the balance of the tree; as a severe defect a shelf or a decided gap or a space between the whorls of branches that is noticeable on 2 or more faces of a tree.

**Gooseneck.** A gooseneck, as the name suggests, is a severe curve or crook in more than one direction (an "S" type curve) along the main stem. This should be scored against all grades. This normally occurs on the upper portion of the tree (see Christmas tree terminology illustration in the U.S. standards, this shows the *location* in the tree where a gooseneck is likely to occur). Do not confuse it with "curvature of the mainstem."

Score as a severe defect any gooseneck.

**Freshness. (\*)** All grades require the trees to be fresh. This mean the needles are green, pliable, and firmly attached; with not more than slight shedding. Trees with needles which are dull or discolored in appearance, brittle, or have lost their luster and shed readily in normal handling shall not be considered fresh, and must be scored against all grades. Trees are expected to have a sufficient amount of fresh needles to present a pleasing appearance. Additionally, the needles are expected to remain attached throughout the Christmas season, assuming the tree is cared for properly.

The definition for "fresh" includes "green," therefore the color requirement for all grades is green. This means that the foliage (needles) must have a natural color characteristic of the species.

Some species, such as Douglas Fir, Scotch Pine, and Blue Spruce show variations in color from blue-green to yellowish-green. If the color of the foliage is

characteristic for the species it will meet the requirement of "green." Foliage that is distinctly yellow to brown in color would not meet the requirement of "green," and therefore would be scoreable against all grades as not being fresh.

Since the definition of freshness of the needles includes both green and pliable, both conditions must be met in order to satisfy the requirement of "fresh." If needles are green and brittle or yellow and pliable, neither case would meet the requirement of fresh, and therefore would be scoreable against the grade.

The third condition of "fresh" is that the needles are firmly attached, with not more than slight shedding. Although this is a part of the definition of fresh, it is a factor that is considered by the degree of shedding, and is listed in the standard in the Classification of Defects (Tables I and II). However, if a tree exhibits a moderate or severe loss of needles it probably would not meet the requirement of fresh.

In judging the degree of shedding, it must be remembered that it is normal for all species of pine trees to shed the three year old needles, and that most of this shedding will take place during the Christmas tree season. Therefore, the presence of loose needles on the floor of the truck, car, or in the lot may not have much bearing in determining the degree of shedding.

**Healthy. (\*\*)** Healthy means that the needles have a fresh, natural appearance characteristic of the species. Needles that are not considered healthy are characterized by yellow to brown discoloration, abnormal curling and a dried out appearance. Trees with foliage (needles) that are not healthy may have galls, dead twigs, and missing or broken branches. They may also show an abnormal loss of needles.

**Loss of needles. (\*\*)** Needles that are dry, discolored, and/or unhealthy (diseased, affected by insects, etc.) may drop from the tree. Some species will always show dry, discolored needles. Also, slight shedding is natural and should not be scored. The characteristics of the species must be considered when scoring this defect. However, if the tree shows an unusual amount of needles dropping or missing, or if the needles shed readily when handled this must be scored. Loss of needles will usually be reported as a Condition defect.

Score as a **minor defect** slight loss of needles; as a **noticeable defect** a moderate loss of needles; as a **severe defect** a severe loss of needles.

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## (11) Defect Code List

The following is a list of alphabetical codes of defects that can be used on the notesheet.

AC	Abnormal Curling of Needles	LN	Loss of Needles
BB	Broken Branches	MD	Mechanical or Physical Damage
BLW	Barren Lower Whorl	ML	Multiple Leaders
CN	Crows Nest	MS	Multiple Stems
CS	Curvature of Main Stem	UD	Uneven Density
DG	Decided Gap or Shelf	WB	Weak Branches
FM	Foreign Material or Vines	NF	Not Fresh or Healthy
GN	Gooseneck	MIS	Not Well Shaped
H	Hole	PTB	Poorly Trimmed Butt
ID	Insects or Disease	OH	Off-length Handle
IW	Incomplete Whorl	OS	Off-size Height
LB	Long Branches		

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## (12) Grade

Under this heading a clear statement must be made to indicate whether or not the lot(s) meets the requirements of the grade or other specifications on which it was inspected, or the grade marked on any attached tags. The grade statement must be based on the facts in the preceding headings on the certificate.

Since each tree will stand on it's own merit, Christmas Trees are usually graded giving a percentage of the various grades: U.S. Premium, U.S. No. 1, U.S. No. 2; and, the percentage of culls. However, a lot of trees can be graded based on a particular grade. For example: "U.S. No. 1" or "Fails to grade U.S. Premium account of condition." The percentage of U.S. No. 1 quality can also be reported.

Additionally, if a handle length has been specified, this should be stated in the grade statement.

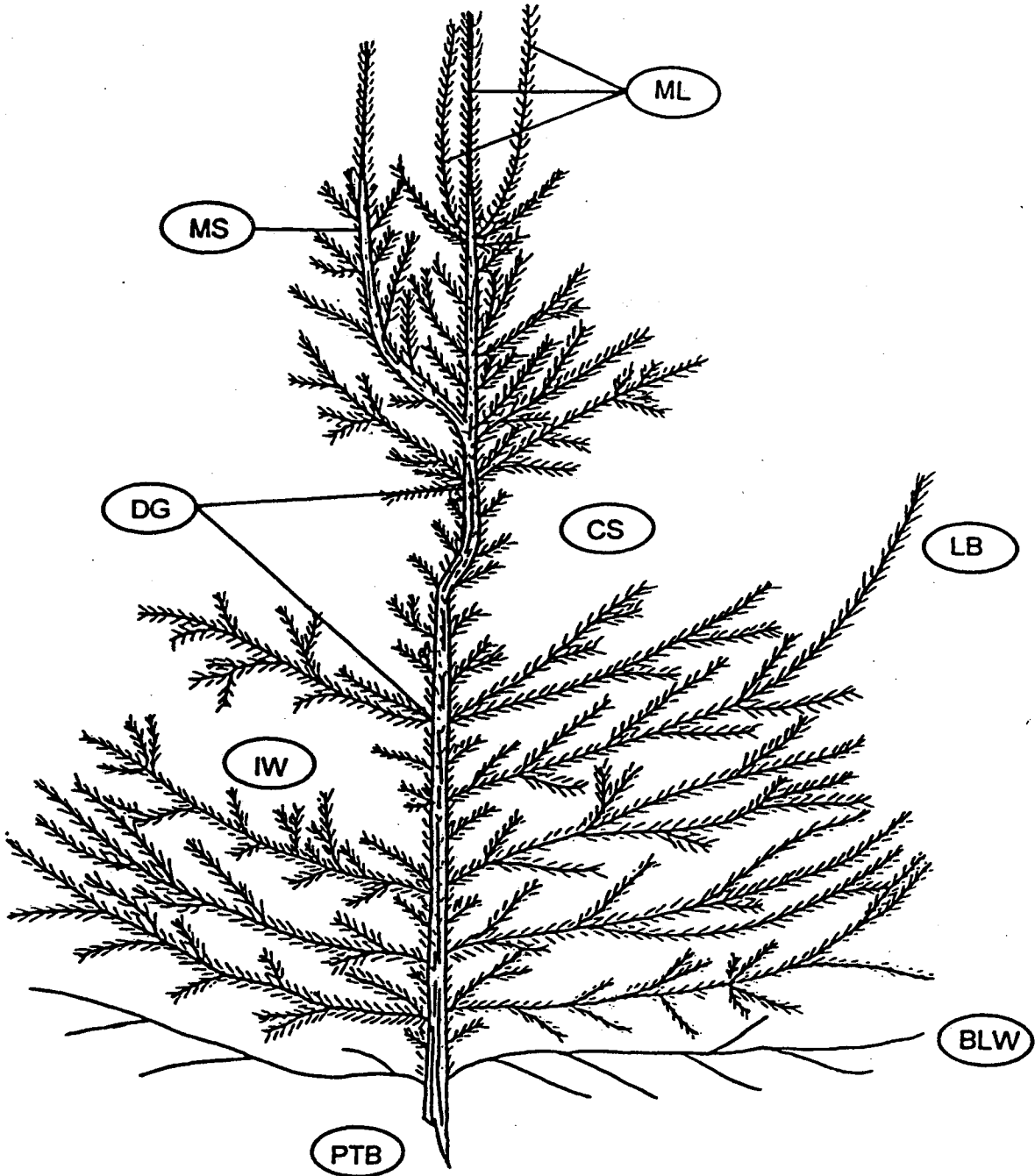


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### **(13) Remarks**

Under this heading any explanatory or qualifying statements that are necessary to complete the certificate should be made. They may include one or more of the following:

- Restrictions to a lot, load, or size.
- Information supplied by the applicant such as designation, species, etc.
- Cross reference to another certificate number such as in reinspections, appeals, etc.
- Contract specifications.
- Factors not affecting grade at applicant's request.
- Continuation of "Other" section.



**Illustration II**  
**Christmas Tree Showing Various Defects**

# Inspection Instructions for Wreaths and Other Greenery

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## (1) General

During the past few years the inspection service has experienced an increasing number of requests for inspection of wreaths and other greenery (roping, garland, etc.)

At the present time, there are only U.S. Standards for Grades of Christmas Trees. Therefore, definitions of minor, noticeable and severe defects do not apply. However, if a factor of Quality or Condition occurs, it may be described as "affected by."(Describe degree and area affected.) Size may also be reported.

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## (2) Products Inspected

When reporting the name of the wreaths or other greenery in the "Products" section of the certificate, enter the common name, such as "Wreaths," "Garland," "Roping," etc. The species (variety) if quoted on the authority of someone other than the inspector, can also be reported.

If the wreaths or other greenery are bundled or tied, or in containers this should also be noted.

The number of wreaths or other greenery should be reported. The quantity should always be shown in individual pieces (of wreaths or lengths of other greenery, etc.).

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## (3) Temperature of Product

A common defect in wreaths and other greenery is discolored needles and/or shedding of needles. This is often a result of high temperatures within bundles or containers. Therefore, temperatures within bundles, or stacks should be reported.

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## (4) Sampling

**Representative Sampling.** Too much emphasis cannot be placed on the importance of the inspector obtaining representative samples. Accurate certification is possible only if the samples examined are truly representative of the entire lot or accessible portion. All portions of a lot or load should receive the same attention in sampling regardless of the difficulty involved in reaching the more inaccessible layers or parts of a load.

**General terms** shall be used to describe and report defects. If the wreaths or other greenery are bundled, the bundle shall be the unit of inspection. Bundles should be opened to accurately determine the number of individual pieces affected by defects. For example; Most bundles show 1 to 2 wreaths with yellow discoloration (affecting  $\frac{1}{4}$  to  $\frac{1}{2}$  of wreath), or some lengths of roping show from  $\frac{1}{3}$  to  $\frac{1}{2}$  of length dry and discolored with needles shedding readily when handled.

If the wreaths or other greenery are loose (not bundled) the individual wreath or piece of greenery shall be the unit of inspection.

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## (5) Size

Size can be reported in a number of ways, including: diameter of wreaths (outside diameter), number of wreaths per bundle, length of roping, garland or other greenery, and number of pieces of roping, garland or other greenery per bundle. Diameter or length should be reported in inches or feet, whichever is applicable.

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## (6) Quality

Generally, quality factors will not be reported when inspecting wreaths or other greenery. However, individual wreaths and pieces of other greenery are usually held together with some type of wire, or attached to wire rings. The points of attachment may be loose, or become unattached. Do not be too critical of these factors, however, if pieces of greenery along the rings or along the lengths of roping have become unattached report it using general terms. For example: Some wreaths show loose or missing pieces of greenery, with sections of wire ring visible.

Density of the greenery along the rings or lengths of roping can be reported using the terms: heavy, medium, or light. (Density refers to the greenery attached to the ring or wire, not missing or attached pieces.)

Also, if the wreaths or other greenery have been painted, this fact can be reported. See the paragraphs on painting in the Christmas tree section.

---

## (7) Condition

The following shall be reported:

- Freshness and Healthiness
- Color
- Other Condition Defects

***Freshness and Healthiness.*** The needles should be green, pliable and firmly attached, with no more than slight shedding. Wreaths and other greenery with needles that are dull, or discolored, brittle or that shed readily in normal handling shall not be considered fresh and should be reported as "not fresh."

***Color.*** The needles should be green (or a color characteristic of the species.) Yellow, brown or otherwise discolored needles should be reported using general terms.

***Other Condition Defects.*** Wreaths and other greenery can be affected by the same types of condition defects as Christmas Trees, such as: insect or disease damage, fresh mechanical damage, abnormal curling of needles, and loss of needles. See the paragraphs covering these factors in the Christmas Tree section.

---

## (8) Remarks

See this same heading in the Christmas Tree section.



# Appendix I

## U.S. Standards







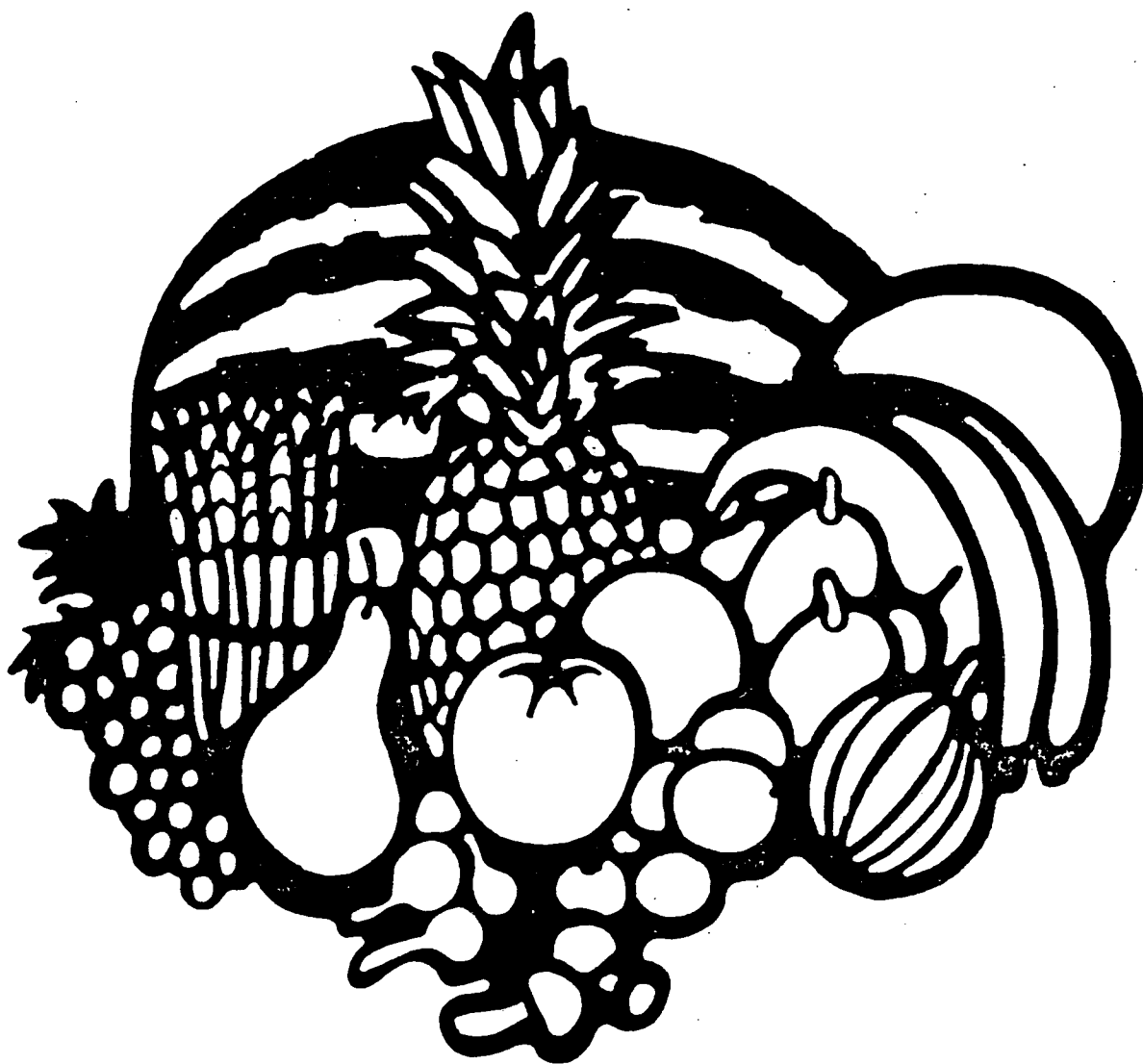


United States  
Department of  
Agriculture

Agricultural  
Marketing  
Service

# United States Standards for Grades of Christmas Trees

Revised, Effective October 30, 1989



# United States Standards for Grades of Christmas Trees

Effective October 30, 1989

Source: 38 FR 5252, Feb. 27, 1973, unless otherwise noted. Redesignated at 42 FR 32514, June 27, 1977 and at 46 FR 63203, Dec. 31, 1981.

## GENERAL

Sec.

51.3085 General.

## GRADES

51.3086 U.S. Premium.

51.3087 U.S. No. 1.

51.3088 U.S. No. 2.

## CULLS

51.3089 Culls.

## SIZE

51.3090 Size.

## TOLERANCES

51.3091 Tolerances.

## DEFINITIONS

51.3092 Fresh.

51.3093 Clean.

51.3094 Healthy.

51.3095 Well shaped.

51.3096 Butt trimmed.

51.3097 Density.

51.3098 Normal taper.

51.3099 Face.

51.3100 Fairly clean.

51.3101 Handle.

51.3102 Height.

51.3103 Minor defects.

51.3104 Noticeable defects.

51.3105 Classification of defects.

## METRIC CONVERSION TABLE

51.3106 Metric conversion table.

## GENERAL

§ 51.3085 General.

The standards contained in this subpart are applicable to sheared or unsheared trees of the coniferous species which are normally marketed as Christmas trees. The majority of the Christmas trees marketed are of the following species:

Douglas Fir (*Pseudotsuga Menziesii*); Balsam Fir (*Abies Balsamea*); Red Fir (*Abies Magnifica*); White Fir (*Abies Concolor*); Fraser Fir (*Abies Fraseri*); Grand Fir (*Abies Grandis*); Noble Fir (*Abies Procera*); White Spruce (*Picea Glauca*); Blue Spruce (*Picea Pungens*); Eastern Red Cedar (*Juniperus Virginiana*); Red Pine (*Pinus Resinosa*); White Pine (*Pinus Strobus*); Virginia Pine (*Pinus Virginiana*); Scotch Pine (*Pinus Sylvestris*).

## GRADES

§ 51.3086 U.S. Premium.

"U.S. Premium" consists of trees which meet the following requirements:

(a) Characteristics typical of the species;

(b) Butt trimmed; except for trees graded "on the stump";

(c) Normal taper;

(d) Fresh;

(e) Clean;

(f) Healthy;

(g) Well shaped;

(h) Not less than heavy density;

(i) Handle length, unless otherwise specified, shall be not less than 6 inches, or more than 1½ inches for each foot of tree height. For trees graded "on the stump," handle length will not be a requirement of the grade;

(j) Three faces with not more than 1 minor defect. Remaining face may not have more than 1 minor defect;

(k) For size see § 51.3090;

(l) For tolerances see § 51.3091.

§ 51.3087 U.S. No. 1.

"U.S. No. 1" consists of trees which meet the following requirements:

(a) Characteristics typical of the species;

(b) Butt trimmed; except for trees graded "on the stump";

- (c) Normal taper;
- (d) Fresh;
- (e) Fairly clean;
- (f) Healthy;
- (g) Well shaped;
- (h) Not less than medium density;
- (i) Handle length, unless otherwise specified, shall be not less than 6 inches, or more than 1½ inches for each foot of tree length. For trees graded "on the stump", handle length will not be a requirement of the grade.
- (j) Three faces with not more than 2 minor defects. Remaining face may not have more than 1 noticeable defect;
- (k) For size see § 51.3090;
- (l) For tolerances see § 51.3091.

**§ 51.3088 U.S. No. 2.**

"U.S. No. 2" consists of trees which meet the following requirements:

- (a) Characteristics typical of the species;
- (b) Butt trimmed; except for trees graded "on the stump";
- (c) Normal taper;
- (d) Fresh;
- (e) Fairly clean;
- (f) Healthy;
- (g) Well shaped;
- (h) Not less than light density;
- (i) Handle length, unless otherwise specified, shall be not less than 6 inches or more than 1½ inches for each foot of tree length. For trees graded "on the stump", handle length will not be a requirement of the grade;
- (j) Two adjacent faces with not more than 3 minor defects. Remaining faces may not have more than 2 noticeable defects;
- (k) For size see § 51.3090;
- (l) For tolerances see § 51.3091.

**CULLS**

**§ 51.3089 Culls.**

"Culls" consist of individual trees which fail to meet the requirements of the U.S. No. 2 grade. (See § 51.3105 Table II).

**SIZE**

**§ 51.3090 Size.**

(a) Height of trees shall be stated in foot increments and unless otherwise specified, the following color codes will be used to designate the respective sizes:

COLOR	TREE HEIGHT (Feet)
Lime . . . . .	.3 feet or less
Orange . . . . .	.Over 3 to 4
Blue . . . . .	.Over 4 to 5
Red . . . . .	.Over 5 to 6
Yellow . . . . .	.Over 6 to 7
Green . . . . .	.Over 7 to 8
White . . . . .	.Over 8 to 9
Pink . . . . .	.Over 9 feet

(b) In determining which designations apply, the measurement for the height is the distance from the base of the handle to the top of the main leader, excluding that portion of the leader that extends more than 4 inches above the apex of the cone of the taper applicable to the tree.

(c) In any size range, a minimum of 1/3 of the trees in a lot shall be in the top half of that size range.

**TOLERANCES**

**§ 51.3091 Tolerances.**

In order to allow for variations incident to proper sizing, grading and handling in each of the foregoing grades the following tolerances, by count, shall apply when a lot of Christmas trees is required to meet a specific grade.

(a) For total defects, 10 percent for Christmas trees in any lot which fail to meet the requirements for the grade: *Provided*, That included in this amount not more than the following percentages shall be allowed for defects listed:

- (1) Off-size. Five percent for trees which fail to meet the height specified.

(2) Off-length handle. Ten percent for trees which fail to meet the requirement for handle length, but which meet all other requirements for the specified grade.

(3) Defects. Ten percent for trees which fail to meet the remaining requirements of the grade.

**DEFINITIONS**

**§ 51.3092 Fresh.**

“Fresh” means the needles are green, pliable, and firmly attached; with not more than slight shedding.

**§ 51.3093 Clean.**

“Clean” means the tree is reasonably free from foreign material.

**§ 51.3094 Healthy.**

“Healthy” means the needles have a fresh, natural appearance characteristic of the species.

**§ 51.3095 Well shaped.**

“Well shaped” means that the tree is not flat on one side and the branches of the tree, whether sheared or unsheared, are of sufficient number and length to form a conical outline tapering from the lowest whorl of branches to the top.

**§ 51.3096 Butt trimmed.**

“Butt trimmed” means that all barren branches shall have been removed, and the trunk has been smoothly cut at approximately right angles to the trunk.

**§ 51.3097 Density.**

“Density” means the amount of foliage on the tree. Factors contributing to degree of density are: The number and size of branches within the whorl, distance between the whorls, number and arrangements of the branchlets on each branch, the extent of internodal branching, needle arrangement, and needle length. Species differ in their habit of growth and some species do not have internodal branches. Density is judged on the basis of species characteristics.

(a) “Heavy density” means the whorls or branches are relatively close together, the spaces between are filled with needles and twigs so that the following species have said percentage of foliage so the main stem is not

visible and the needle content and length are adequate to cover the branches:

NAME	PERCENTAGE OF MAIN STEM COVERED
Red Cedar . . . . .	90 to 100%
Balsam Fir . . . . .	80 to 100%
Douglas Fir . . . . .	90 to 100%
Fraser Fir . . . . .	70 to 100%
Red Fir . . . . .	60 to 100%
White Fir . . . . .	70 to 100%
Grand Fir . . . . .	80 to 100%
Noble Fir . . . . .	60 to 100%
Red Pine . . . . .	70 to 100%
Scotch Pine . . . . .	90 to 100%
Virginia Pine . . . . .	90 to 100%
White Pine . . . . .	90 to 100%
Spruce (all) . . . . .	80 to 100%

(b) “Medium density” means the whorls or branches are reasonably close together, the spaces between are filled with twigs and needles so that the following species have said percentage of foliage so the main stem is not visible and the needle content and length are adequate to cover the branches:

NAME	PERCENTAGE OF MAIN STEM COVERED
Red Cedar . . . . .	70 to 90%
Balsam Fir . . . . .	60 to 80%
Douglas Fir . . . . .	70 to 90%
Fraser Fir . . . . .	50 to 70%
Red Fir . . . . .	50 to 60%
White Fir . . . . .	50 to 70%
Grand Fir . . . . .	60 to 80%
Noble Fir . . . . .	50 to 60%
Red Pine . . . . .	60 to 70%
Scotch Pine . . . . .	70 to 90%
Virginia Pine . . . . .	70 to 90%
White Pine . . . . .	70 to 90%
Spruce (all) . . . . .	60 to 80%

(c) "Light density" means the whorls or branches are reasonably spaced, the spaces between are only partially filled so that the following species have said percentage of foliage so the main stem is not visible and the needle content and length are adequate to cover the branches:

NAME	PERCENTAGE OF MAIN STEM COVERED
Red Cedar . . . . .	.50 to 70%
Balsam Fir . . . . .	.40 to 60%
Douglas Fir . . . . .	.50 to 70%
Fraser Fir . . . . .	.40 to 50%
Red Fir . . . . .	.40 to 50%
White Fir . . . . .	.40 to 50%
Grand Fir . . . . .	.40 to 60%
Noble Fir . . . . .	.40 to 50%
Red Pine . . . . .	.40 to 60%
Scotch Pine . . . . .	.50 to 70%
Virginia Pine . . . . .	.50 to 70%
White Pine . . . . .	.50 to 70%
Spruce (all) . . . . .	.40 to 60%

**§ 51.3102 Height.**

"Height" means the distance from the base of the handle to the top of the main leader, excluding that portion of the leader that extends more than 4 inches above the apex of the cone of the taper applicable to the tree.

**§ 51.3103 Minor defects.**

"Minor defects" are slight imperfections in the development of the tree or defects resulting from handling, which materially affect the appearance of the tree. While many minor defects may be visible from more than 1 face, a given defect shall be scored only once. (See § 51.3105 Table I).

**§ 51.3104 Noticeable defects.**

"Noticeable defects" are imperfections in the development of the tree or defects resulting from handling, which seriously affect the appearance of the tree. While many noticeable defects may be visible from more than 1 face; a given defect shall be scored only once. (See § 51.3105 Table I).

**§ 51.3098 Normal taper.**

"Normal taper" means the relationship of the width of the tree at its lowest branches to the height of the tree, less the handle, judged from its best side. All trees shall form a cone, the base of which is from 40 to 100 percent of its height.

**§ 51.3099 Face.**

"Face" means the visible area of a tree as viewed from a distance of 8 to 10 feet from the tree. A tree shall be considered as having four faces, each consisting of one-quarter of the surface area of the tree.

**§ 51.3100 Fairly clean.**

"Fairly clean" means that the tree is moderately free from foreign material.

**§ 51.3101 Handle.**

"Handle" means that the portion of the trunk between the butt or base of the tree and the lowest complete whorl of foliated branches.

## § 51.3105 Classification of Defects

Table I

Factor	Minor defects	Noticeable defects
1. Density.	Slight uneven density.	Moderately uneven density.
2. Curvature of main stem.	Slight visible crook in the main stem. (4 inches or less from vertical).	Main stem visibly curved more than 4, but less than 6 inches from vertical.
3. Insect or disease damage	Slight insect or disease damage.	Moderate insect or disease damage.
4. Broken branches.	1 broken whorl branch near the main stem.	Broken leader or more than 1 broken whorl branch adjacent main stem.
5. Physical damage.	Slight physical damage.	Moderate physical damage.
6. Foreign material and/or vines.	Slight amount of foreign material or vines.	Moderate amount of foreign material or vines.
7. Multiple leader stems.	Multiple leaders.	Crows nest.
8. Extra long branches.	Branch over 10 inches longer than other branches on corresponding whorl.	N/A
9. Abnormal curling of needles.	Slightly abnormal curling of needles.	Moderately abnormal curling of needles.
10. Weak lower branches.	Free from.	Weak lower branches affecting up to 3/4 of branches on bottom whorl.
11. Handle not proportionate to height.	Free from	Handle not proportionate to height of tree.
12. Incomplete whorl of branches.	Less than 1/4 of branches are missing in a given whorl.	1/4 but less than 1/2 of branches are missing in a given whorl.
13. Holes or gaps in tree.	Free from.	Hole in the tree or space considerably out of proportion with the uniform branch characteristics of the balance of the tree.
14. Gooseneck.	Free from.	Free from.
15. Loss of needles.	Slight loss of needles.	Moderate loss of needles.

Table II

Factor	Culls
1. Density.	Severely uneven density.
2. Curvature of mainstem.	Main stem curved more than 6 inches.
3. Insect or disease damage.	Severe insect or disease damage or abnormal curling of needles.
4. Broken branches.	Main stem broken below top whorl or more than three branches broken near trunk.
5. Physical damage.	Severe physical damage.
6. Foreign material and/or vines.	Heavy amounts of foreign material or vines.
7. Multiple stems.	Multiple main stems (not leaders).
8. Extra long branches.	N/A
9. Abnormal curling of needles.	Severely abnormal curling of needles.
10. Weak lower branches.	Weak lower branches affecting more than 3/4 of branches on bottom whorl.
11. Handle not proportionate to height.	N/A
12. Incomplete whorl of branches.	More than 1/2 of branches missing in a given whorl or when missing branches create a shelf.
13. Holes or gaps in tree.	Shelf or a decided gap or space between whorls of branches noticeable on 2 or more faces.
14. Gooseneck.	Any gooseneck.
15. Abnormal loss of needles.	Severe loss of needles.

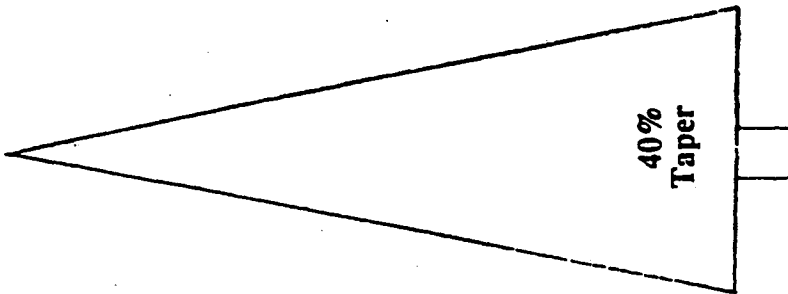
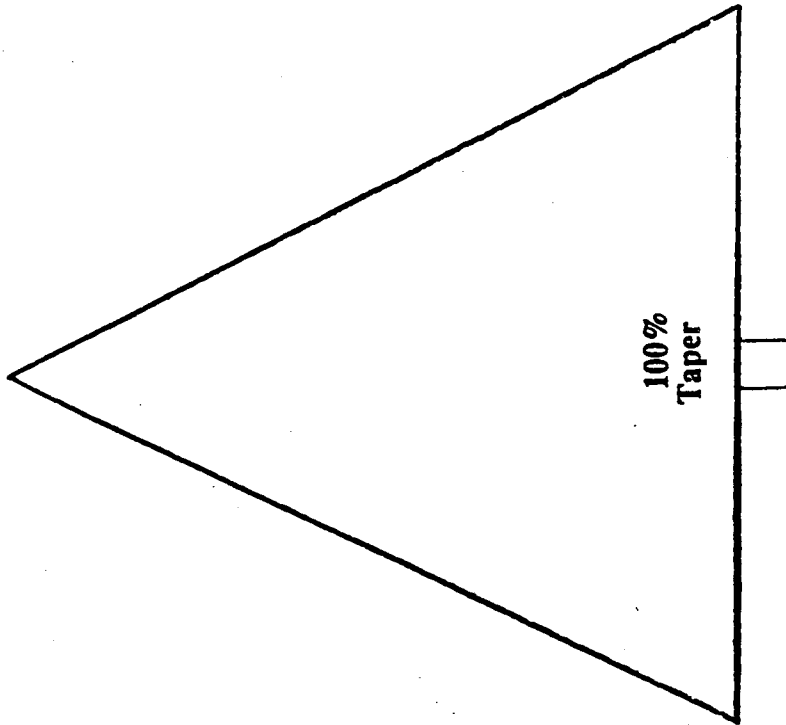
## § 51.3106 Metric Conversion Table

Metric Conversion Table	
Feet	Centimeters (cm)
1 . . . . .	30.48
2 . . . . .	60.96
3 . . . . .	91.44
4 . . . . .	121.92
5 . . . . .	152.40
6 . . . . .	182.88
7 . . . . .	213.36
8 . . . . .	243.84
9 . . . . .	274.32
10 . . . . .	304.80

Dated: September 26, 1989

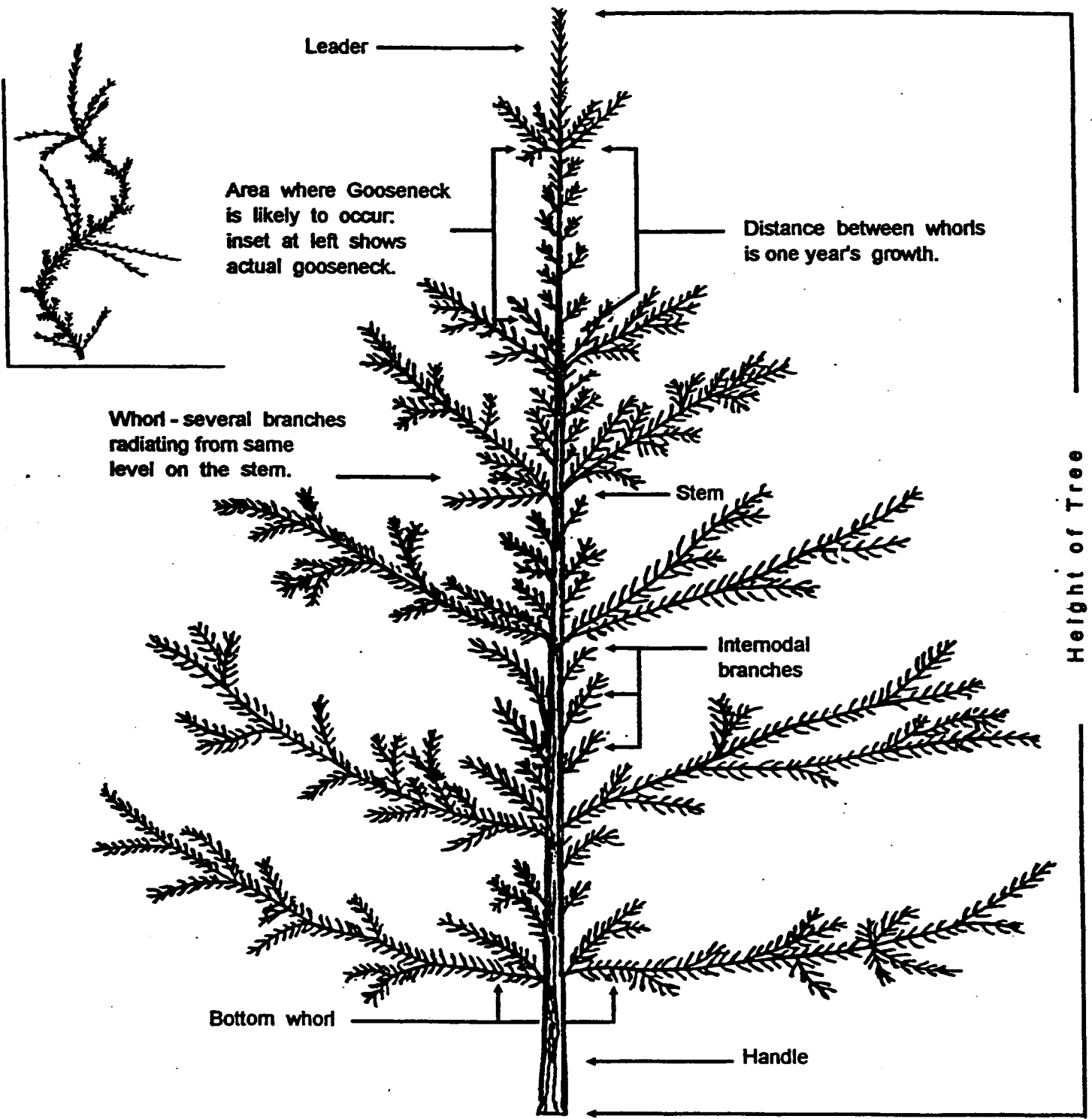
Kenneth C. Clayton,  
Acting Administrator.

[FR Doc. 89-23043 Filed 9-28-89; 8:45 am]

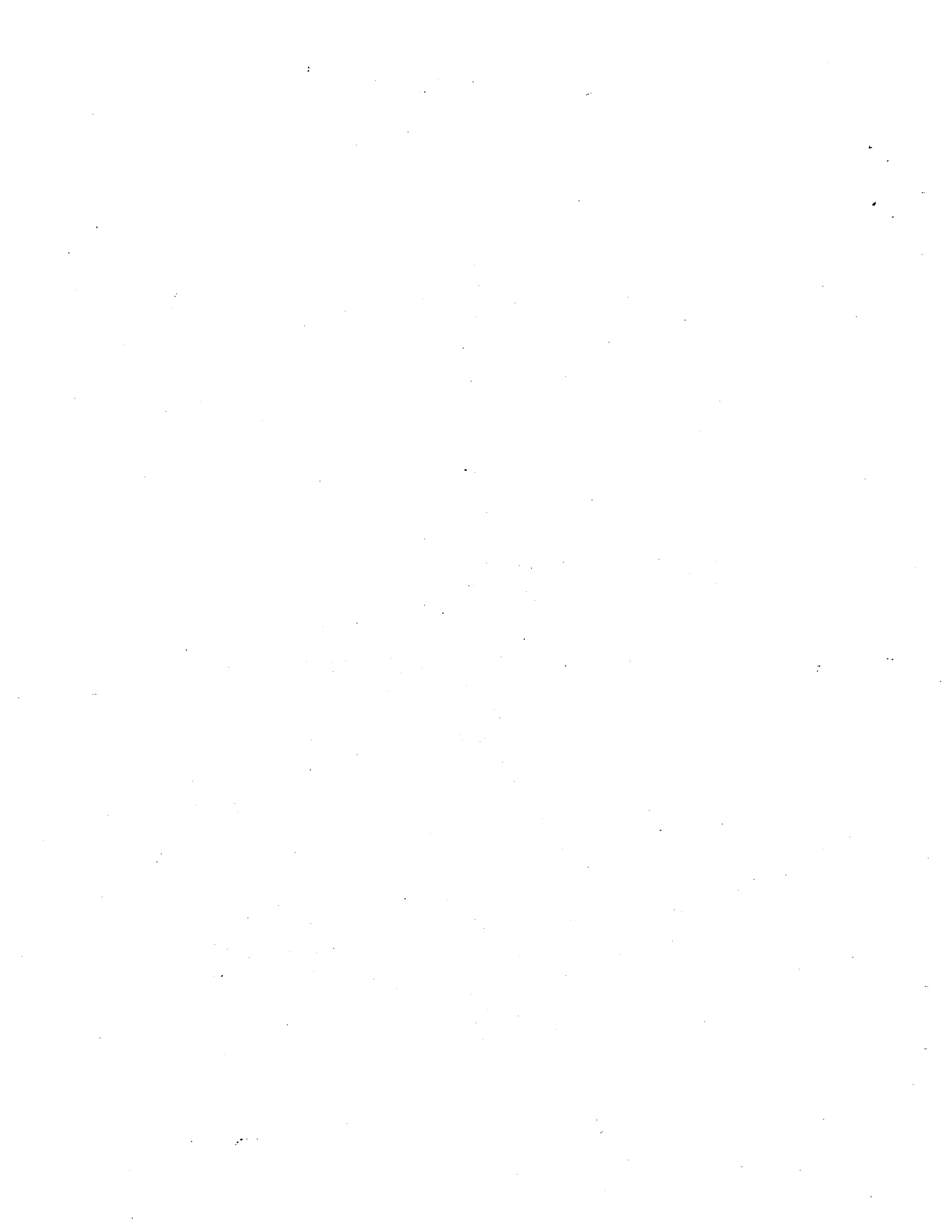


# Christmas Tree Taper



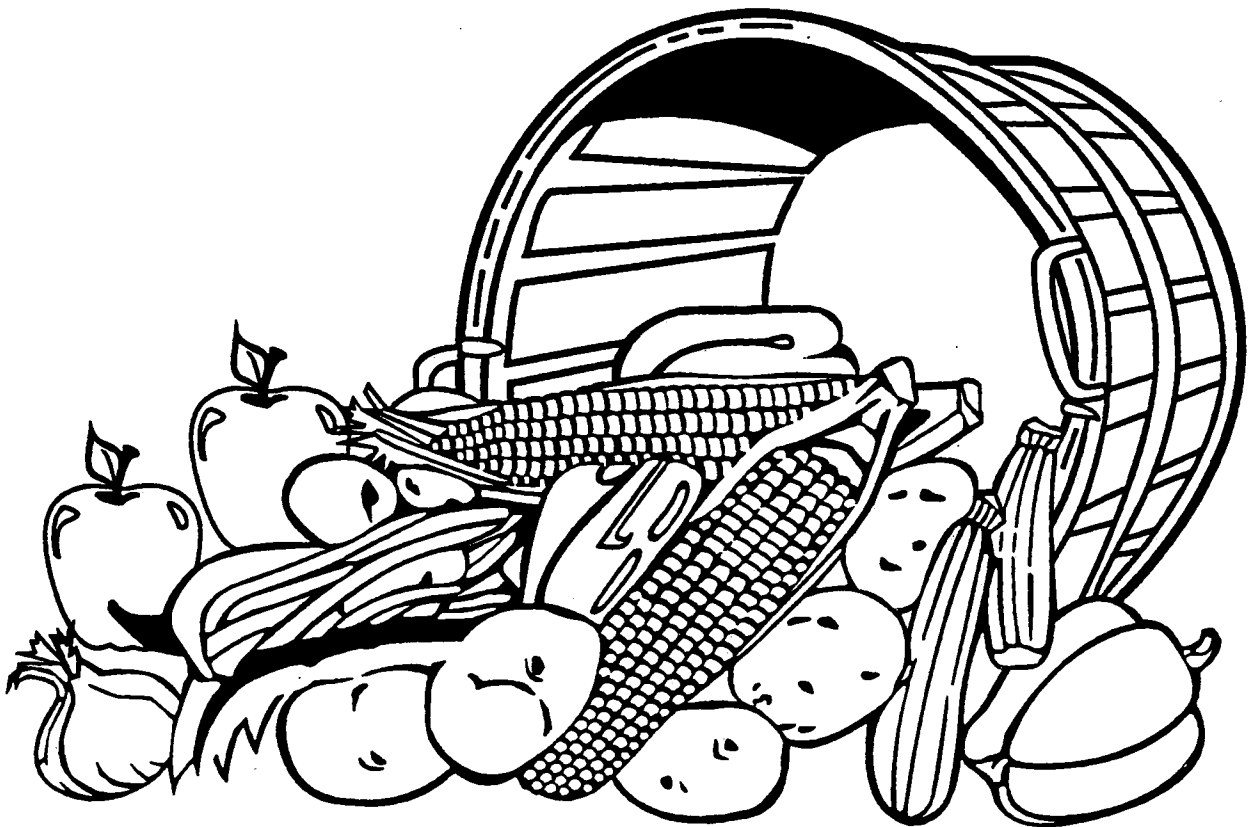


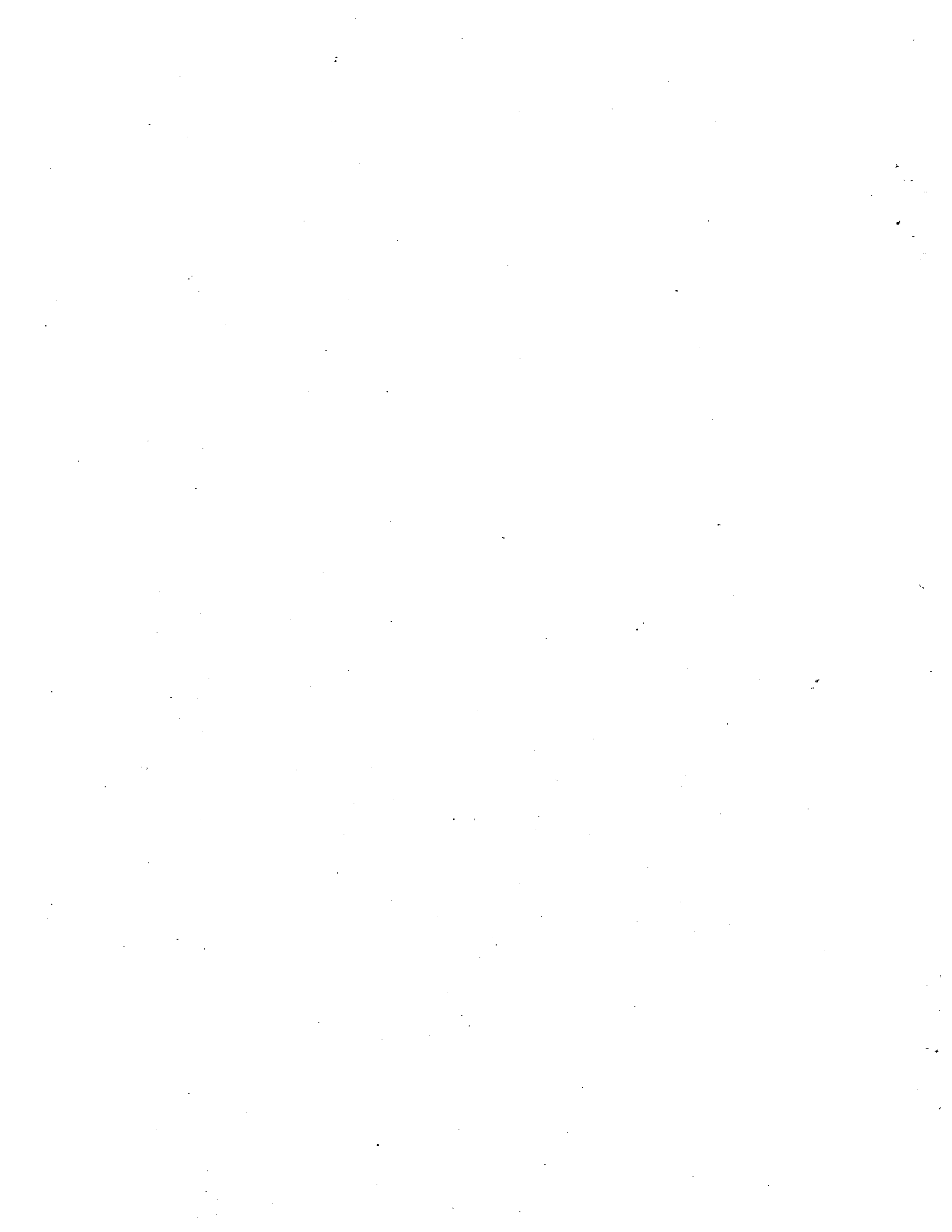
CHRISTMAS TREE TERMINOLOGY



# Appendix II

## Notesheets (Blank)







# CHRISTMAS TREE

## SUGGESTED COLUMN HEADINGS FOR FV-300N NOTESHEET

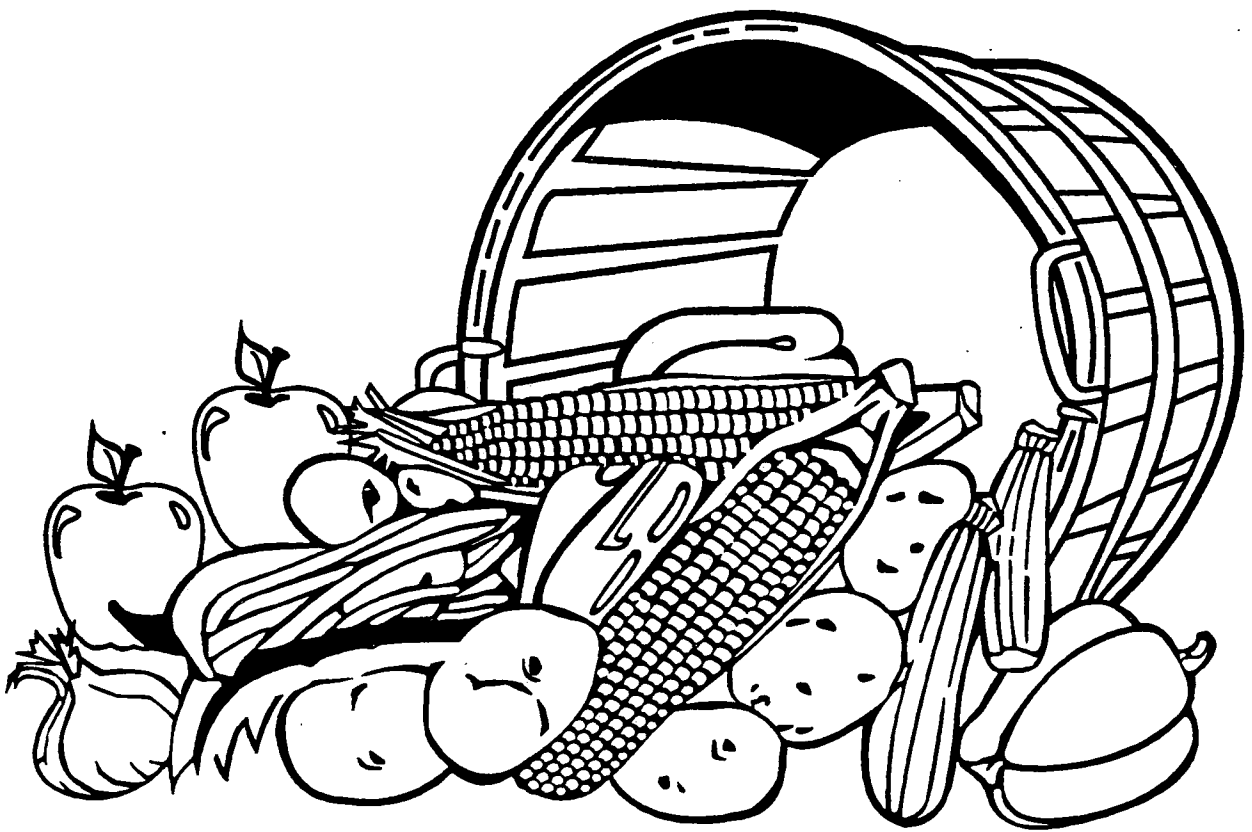
SCORESHEET		Tree Sample	Height ft.	Handle in.	Taper C-N-F	Density H-M-L	Defects / Faces (M N S)				Defect code	GRADE
PLI Number	Other I.D.						TEMP.	1	2	3		

The letters "M, N, and S" stand for the severity of the particular defects; "minor, noticeable, and severe," respectively. More than one defect can be scored on a face, however, a single defect which may be visible from more than one face can be scored only once.

The "Defect Codes" can be found in the inspection instructions.

The "Grade" column will not be filled in until the inspection of all sample trees is complete. Based on the number and severity of defects, a grade will be determined for each tree.

# Appendix III Notesheet & Certificate Examples







# **Shipping Point**

Applicant / Address: **Kris Kingle Farms**  
**100 Santa's Way, Christmas Town NC**

Inspection Site: **Road 8 Field**  
**Christmas Town NC**

Date & Time Begun: **9-20-91 8:00 AM**

Date & Time Completed: **9-21-91 2:00 PM**

Count: **10,000 trees**

Inspectors		Species		Certificate #'s		Fees	
<b>Jane West / Johnnie Quest</b>		<b>D. Fir</b>		<b>EXAMPLE #</b>		<b>(Hourly basis)</b>	
Height	Off-Size	Off-Length Handle	U.S. Premium	U.S. No. 1	U.S. No. 2	Cull	Total
Ribbon Color	Size	Handle	Total %	Total %	Total %	Total %	Total Trees
Red (2000)	III	Not Determined	65%	106%	17%	11	8%
	27%		33%	53%	8%	1	4%
Yellow (4000)	III		160%	192%	30%	18	18
	16%		40%	46%	7%	11	4%
Blue (4000)	III		95%	236%	27%	1	27
	47%		23%	59%	7%	11	7%
X							

Quality & Condition Factors: **Well Shaped, Normal Taper, (H) M density, foliage clean fresh height, needles firmly attached.**

Remarks: **Trees graded in the string.**

Page 1 of 1

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

FEDERAL-STATE INSPECTION CERTIFICATE

This certificate is issued in compliance with the regulations of the Secretary of Agriculture governing the inspection of various products pursuant to the Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1621 et seq.) and the applicable statutes of the States, and is admissible as prima facie evidence in all courts of the States and State courts where provided by law. WARNING: Any person who knowingly shall falsely make, issue, alter, forge, or counterfeit this certificate, participate in any of such actions, is subject to a fine of not more than \$1,000 or imprisonment for not more than one year, or both, under any of all services and licensing of inspection/grading/sampling personnel under the regulations governing such services shall be accomplished without action as to race, color, religion, sex, or national origin.

INSPECTION POINT: Field off Rt 8, Christmas Town NC CARRIER:  CAR  TRUCK  TRAILER INITIAL AND NO: See Remarks

INSPECTION BEGUN: HOUR 8:00 AM DATE 9-20-91 INSPECTION COMPLETED: HOUR 2:00 PM DATE 9-21-91 CONDITION OF CARRIER: ---

APPLICANT NAME AND ADDRESS: Kris Kringle Farms  
100 Santa's Way, Christmas Town NC  SHIPPER  RECEIVER NAME AND ADDRESS: SAME

PRODUCT	LOADER'S COUNT AND TYPE OF CONTAINER	CONTAINER MARKINGS	SIZE	GRADE
CHRISTMAS TREES (Douglas Fir)	2000 trees	Red tags	Generally 5 to 6 feet in height with over 33% 6 1/2 feet or longer. 2% off-size	86% U.S. No. 1 or higher quality
	4000 trees	Yellow tags	Generally 6 to 7 feet in height with over 33% 6 1/2 feet or longer. 1% off-size	88% U.S. No. 1 or higher quality
	4000 trees	Blue tags	Generally 7 to 8 feet in height with over 33% 7 1/2 feet or longer. 4% off-size	Approximately 80% U.S. No. 1 or higher quality.

QUALITY AND CONDITION: Each lot - Foliage fresh, healthy + clean. Needles firmly attached. Mostly heavy density, some medium density, well shaped + normal taper. Primary defects include uneven density, curved main stem, multiple leaders, holes/gaps and multiple stems. Off-size within tolerance.

REMARKS: Trees inspected "on the stump". Each lot contains at least 20% U.S. Premium grade. Applicant states blue tags 7 to 8 foot trees.

Hourly Basis (circled)  
Expense \$  
Overtime  
Total

I, the undersigned, a duly authorized inspector of the United States Department of Agriculture, do hereby certify that at the request of the applicant and on the date indicated, samples of the above described products were inspected and the quality and/or condition as shown by said samples were as herein stated.

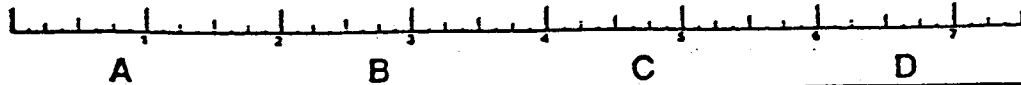
Jane West / Johnnie Quest  
INSPECTOR

# Market



Revised, May 1994, HU-123-2(d)  
 Appendix III - vi, Example #1, Notesheet, Christmas Trees Market  
 and Shipping Point Inspection Instructions, September 1992

EXAMPLE #1



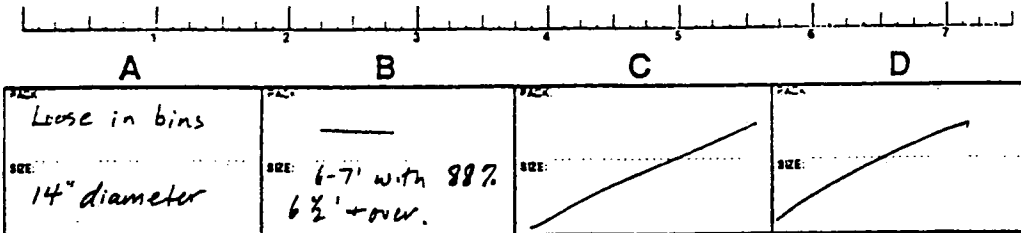
SCORESHEET			Tree ID	Height ft.	Handle in.	Taper C:N-F	Density H:M:L	Defects / Faces (M N S)				Defect code	GRADE
PLU-Number	Color ID	TEMP.						1	2	3	4		
	Red	Nat	1	6	9	N	H		M			VD	P
Ribbons	R	taken	2	5 1/2	7	-	H	M	M			CS UD	I
	Yellow		3	7	9	-	M						I
	Y		4	7	10	-	H	S				MS	C
	Y		5	6 1/2	9	-	H	M				ML	P
	Y		6	6	8	-	H						P
	R		7	6	8	-	M						I
	R		8	6	9	-	H		M			VD	P
	Blue		9	7	9	-	H			M		CS	P
	B		10	7 1/2	9	-	H	N	N			CS H	2
	B		11	8	11	N	M	M				ML	I
	Y		12	6	9	-	H		N	N		H WLS	2
	B		13	8	11	-	H						P
	B		14	7	6	-	H						P
	R		15	5 1/2	7	-	A	M				ML	P
	B		16	7 1/2	10	-	H	MS				ML MS	C
	B		17	7 1/2	10	-	M	MM	M			ML UD CS	2
	Y		18	7	10	-	H	MN	M	M		H UD CS	C
	B		19	7 1/2	5 1/2	-	H	MN				ML OH ML CS	I
	Y		20	7	6	-	H	MN					I
						(5%)	N	(H)					
								M					
Red	5-6' with	100% (100%)										40% Prem	
Yellow	6-7' with	77% (100%)				No off-side						30% H	
Blue	7-8' with	75% (100%)										15% H	
												15% Cut	
Fresh & Healthy													
Clean, well shaped													
Needles firmly attached													
REMARKS / RESTRICTIONS / SPI													
Applicant states blue ribbons 7 to 8 feet trees.													
Applicant supplied labor.													
CARLOT Basis:			REPORTED TO:	S. Claus		INSPECTED BY:							
HOURLY Basis:	(4 hours)		DATE:	12-11-91		TIME:	2:20 pm		M. R. Grinch				
TRAVEL Time:			REQUESTED BY:	S. Claus		ASSISTED BY:							
EXPENSES:	(60 miles)		DATE:	12-10-91		TIME:	12:00 PM		J. Doe				
EST TOTAL:													







EXAMPLE #2



SCORESHEET				Height ft.	Handle in.	Taper C-N-F	Density H-M-L	Defects / Faces (M N S)				Defect code	GRADE	
PLI Number	Other ID	TEMP.	Tree					1	2	3	4			
—		68	1	14 inches (diam.)	—	H								
WREATHS			2	✓		—				OK				
			62	3	✓					OK				
			4	✓						OK				
			71	5	✓					OK				
			6	✓						Dry + disc		NF LN		
			70	7	✓					Dry + disc		NF LN		
			8	✓						OK				
				14"			H			(OK) many		NF, LN (moderate)		
—	Yellow		1	7	9	N	H			—	N		H	1
TREES	ribbon		2	6½	9	✓	✓			M			ML	P
			3	6½	9	✓	✓			N		M	H, CS	1
			4	7	9	✓	✓			M			ML	P
			5	6½	9	✓	✓			MM		M	ML, LB, CS	2
			6	6	9	✓	✓			N			H	1
			7	6½	9	✓	✓			—	N		H	1
			8	6½	9	✓	✓			N		M	WB, VD	1
			9	6½	7	✓	✓			—		M	CS	P
			10	7	9	✓	✓			MM			ML, CS	1
			11	6	7	✓	✓			—	N		M, H, CS	1
		Not	12	7	8	✓	✓			MM			ML, CS	1
		taken	13	6½	7	✓	✓			M			ML	1
			14	6½	9	✓	✓			MM			ML, LB	1
			15	6½	9	✓	✓			MS			ML, WB	C
			16	7	10	✓	✓			M		N	CS, H	1
			17	6½	9	✓	✓			MM			ML, CS	1
			18	7	9	✓	✓			—	N		H	1
			19	6½	9	✓	✓			MM			ML, CS	1
			20	7	7	✓	✓			—		N	WB	1
			21	7	7	✓	✓			—			N, H	1
			22	7	7	✓	✓			—		M	CS	P
			23	6½	9	✓	✓			—	N		H	1
			24	6	7	✓	✓			—				P
			25	6½	7	✓	✓			M			ML	1

REMARKS / RESTRICTIONS / SPI

CARLOT Basis: _____	REPORTED TO: <u>Kris</u>	INSPECTED BY: _____
HOURLY Basis: <u>(4 hours)</u>	DATE: <u>11-22-91</u> TIME: <u>7:05 PM</u>	<u>R. R. Dyer</u>
TRAVEL Time: <u>(1 hour)</u>	REQUESTED BY: <u>Kris</u>	ASSISTED BY: _____
EXPENSES: <u>(48 miles)</u>	DATE: <u>11-22-91</u> TIME: <u>12:30 AM</u>	<u>En. Forest</u>
EST. TOTAL: _____		

