## SPACING AND PLANTING GUIDELINES

After selecting the proper species for the site and to meet the landowners' objectives, determine the number of seedlings that can be planted on the site. The following rates and spacing will allow enough growing room for trees to grow to a merchantable product without significant stagnation of growth or vigor and will allow for maximum usage of available area. For reference and calculations, 1 acre $=43,560$ square feet.

| SPECIES | IN ROWS | BETWEEN <br> ROWS | NEEDED PER ACRE | IN RATE PER ACRE |
| :--- | :---: | :---: | :---: | :---: |
| Spruce and Fir | $6^{\prime}$ | $9^{\prime}$ | 800 | $700-900$ |
| Red and White Pine | $7^{\prime}$ | $8^{\prime}$ | 800 | $700-900$ |
| Hardwood Trees and Larch | $10^{\prime}$ | $10^{\prime}$ | 435 | $400-500$ |
| Black Walnut | $10^{\prime}$ | $12^{\prime}$ | 350 | $300-400$ |
| Hardwood Shrubs | $4^{\prime}$ | $6^{\prime *}$ | 1800 | $80-400$ |
| Fruit Trees | $10-20^{\prime *}$ | $12-24^{*}$ |  |  |

*Shrubs may be planted in bands, clumps, or patches
*Fruit Tree spacing will depend on the root stock (dwarf, semi-dwarf, or standard)
You will be picking up live trees and can expect a very successful planting experience if you give your trees the attention they need. Advice and assistance is provided by your District Forester upon request.

## FOR WINDBREAKS, WILDLIFE, \& VISUAL SCREENS

| SPECIES | IN ROWS | BETWEEN ROWS |
| :--- | :---: | :---: |
| Spruce and Fir | $7^{\prime}$ | $9^{\prime}$ |
| Red and White Pine | $8^{\prime}$ | $9^{\prime}$ |
| Hardwood Trees and Larch | $10^{\prime}$ | $12^{\prime}$ |
| Black Walnut | $10^{\prime}$ | $10^{\prime}$ |
| Shrubs | $5^{\prime}$ | $7^{\prime *}$ |

Based on two to three rows planted and staggered.
*Hawthorn and Crabapple should be spaced $6 \times 10$ feet.
Need help with the number of trees for your windbreak? Figure out how many feet your planting will cover. Take the number of feet and divide by the spacing required for the particular tree type, this will give you the number of trees you need for that row.

Example: I have a 63 foot row and want to plant Spruce along it to make a visual break. I take 63 divided by 7 feet (the spacing between each tree) and come up with 9 trees. Since I am planting two rows, I multiply 9 trees by 2 rows and get 18 trees.

For mixed rows or inter-planting, contact your District Forester, Parker Wohlstein, for help at (906) 667-1100 ext. 632 or email parker.wohlstein@macd.org

