

.CHESTNUTS (and Friends) AT LOCKWOOD FARM, March 2020

Donald Jones, Hans Nienstaedt, Richard Jaynes, and Sandra Anagnostakis

1. KENWOOD AVENUE

- by gate: *Castanea mollissima*
USDA import FP#7275, planted 1939 [peroxidase AB]
- next west *Castanea mollissima*
cultivar '**Bartlett**' grafted 1939 [peroxidase AA+]
- next west *Castanea mollissima*
USDA import FP#7284, planted 1939 [peroxidase BB]
- next west *Castanea mollissima*
USDA import FP#7273, planted 1939 [peroxidase BB]

FARM, CENTER

2. near barns: *Castanea dentata* American Orchard

Four rows of 18 seedlings from Michigan and Wisconsin, provided by Ivan Thor, U. Tennessee. planted 1976 when 2 and 3 yrs old, R1T1 is at the NE corner [all Santamour peroxidase AA].

South of these are 27 trees from the American Chestnut Cooperator's Foundation planted 2007, and a few other trees from others.

☺ original stem ☹ old sprouts ☹ young sprouts, lots of die-back ↑ North

| | | | | |
|--------|-------------------------|---------------------------------|-------------|-----------|
| Tree 1 | ☹ | ☹ | ☹ | ☹ |
| 2 | ☹ | ☹ | ☺ | ☹ |
| 3 | ☺ | ☹ | ☹ | ☹ |
| 4 | ☹ | ☹ | ☹ | ☺ |
| 5 | ☺ | ☺ | ☹ | ☹ |
| 6 | ☹ | ☹ | ☹ | ☹ |
| 7 | ☺ | ☺ | ☹ | ☹ |
| 8 | ☹ | ☹ | ☹ | ☹ |
| 9 | ☺ | ☺ | ☹ | ☹ |
| 10 | ☹ | ☹ | ☹ | ☹ |
| 11 | ☹ | ☺ | ☺ | ☹ |
| 12 | ☺ | ☹ | ☺ | ☹ |
| 13 | ☹ | ☹ | ☺ | ☹ |
| 14 | ☺ | ☹ | ☹ | ☹ |
| 15 | ☹ | ☹ | ☹ | ☹ |
| 16 | ☺ | ☹ | ☹ | ☹ |
| 17 | ☹ | ☹ | ☺ | ☹ |
| 18 | ☹ | ACCF NC Champ | ☹ | ☹ |
| 19 | Smith Middle School, CT | cross #6-07 American tag #24712 | ACCF Pacman | ACCF VT 1 |

| | | | | |
|----|---------------------------------|---------------------------------|-------------------------|----------------------------------|
| 20 | ACCF NC Champ best | cross #6-07 American tag #24713 | | Smith Middle School, CT |
| 21 | cross #6-07 American tag #24714 | ACCF VT 1 | Turkey, C. sativa | ACCF Loudon |
| 22 | ACCF NC Champ | ACCF VT 1 | | Turkey, C. sativa |
| 23 | ACCF Thompson | ACCF Thompson | Turkey, C. sativa | Burton 27a, GA 2011 |
| 24 | ACCF Thompson | Smith Middle School, CT | Smith Middle School, CT | Sault St. Marie tree from Canada |
| 25 | ACCF JEB | ACCF JEB | | |
| | Row 4 | Row 3 | Row 2 | Row 1 |

3. east, center `Scientist's Cliffs' graft (doesn't look like *dentata*) called "American," from Glenndale, MD, land of G.F. Gravatt, also known as FP1000, graft about 1959 [Santamour peroxidase AA]

4. SE corner (*Castanea mollissima* x *C. dentata*) x *C. dentata*
two clones of hybrid `**Clapper**' from a USDA cross in 1946, grafted here about 1960. This was: "M16" = PI#34517, Tientsin, China (1912) crossed with an "American" in MD known as FP 555, and the hybrid crossed again with FP 555 (original now dead), these two clones are not cross-fertile [peroxidase AA and AA], (stump sprout there too!)

5. North and East of 'Clapper', on the road Commercial chestnuts

| | <u>S</u> | <u>Center</u> | <u>N</u> |
|---|-------------------------|-------------------------|-------------------------|
| W | 'Colossal' x 'Lockwood' | 'Colossal' x 'Lockwood' | 'Colossal' [perox. BB] |
| C | 'Colossal' x 'Lockwood' | 'Colossal' [perox. BB] | 'Colossal' x 'Lockwood' |
| E | 'Colossal' x 'Lockwood' | 'Colossal' x 'Lockwood' | 'Colossal' x 'Lockwood' |

6. East of 'Clapper', on the road, between grapes Commercial chestnut seedlings

| | <u>S</u> | <u>Center</u> | <u>N</u> |
|---|----------|---------------|----------|
| W | Dunston | Dunston | Dunston |
| C | Dunston | Dunston | Dunston |
| E | Dunston | Dunston | Dunston |

7. NEW HYBRIDS, just WEST of the American orchard

R1T1 is at the SE corner

| | | |
|------|---|------------|
| R1T1 | Fred Blankenship hybrid 2013 | |
| R1T2 | (<i>C. dentata</i> x <i>C. crenata</i>) x <i>C. dentata</i> | BC1 |
| | cross #3-09 NH R1T11 x RH(5) R2T4 (see Rocky Hill Americans, #13) | |
| R1T3 | <i>C. ozarkensis</i> x <i>C. crenata</i> , NH R2T2 x WL R34T6, 2011 | F1 |

| | | |
|----------|--|------------|
| R1T4 | <i>C. ozarkensis</i> x <i>C. crenata</i> , NH R2T2 x WL R34T6, 2011 | F1 |
| R1T5 | <i>C. dentata</i> x <i>C. crenata</i> , HH R1T6 x WL R34T6 | F1 |
| R1T6 | <i>(C. crenata</i> x <i>C. ozarkensis)</i> x <i>(C. ozarkensis</i> x <i>C. crenata)</i> cross #7-02, SpL R7T61 x SpL R8T63, male fertile 3 nuts/bur <i>(SL R7T7</i> x <i>RgammaT3)</i> x <i>(RalphaT2</i> x Early Jap Δ) NEARLY DEAD | F2 |
| R1T7 | <i>C. ozarkensis</i> x <i>C. crenata</i> , NH R2T2 x WL R34T6, 2011 | F1 |
| R1T8 | <i>(C. crenata</i> x <i>C. ozarkensis)</i> x <i>(C. ozarkensis</i> x <i>C. crenata)</i> cross #7-02, SpL R7T61 x SpL R8T63, male fertile but little pollen <i>(SL R7T7</i> x <i>RgammaT3)</i> x <i>(RalphaT2</i> x Early Jap Δ) 3 nuts/bur CANKER | F2 |
| R1T9 | <i>C. ozarkensis</i> x <i>C. crenata</i> , NH R2T2 x WL R34T6, 2011 | F1 |
| R1T10 | | |
| R1T11 | <i>C. dentata</i> x <i>C. crenata</i> cross #14-91, RH(5) R2T5 (farm) x WL R34T6 (Plantation), male sterile, Excellent resistance, shed nuts by mid-September, poor apical dominance | F1 |
| R1T12-13 | | |
| R1T14 | <i>C. dentata</i> x <i>C. crenata</i> cross #11-91, RH(11) R2T7 x WL R34T6 (Plantation), male sterile, form poor, resistance good, early nuts, seedlings have good roots, good apical dominance (peroxidase AB) | F1 |
| R1T15 | <i>(C. crenata</i> x <i>C. ozarkensis)</i> x <i>(C. ozarkensis</i> x <i>C. crenata)</i> cross #7-02, SpL R7T61 x SpL R8T63, male fertile <i>(SL R7T7</i> x <i>RgammaT3)</i> x <i>(RalphaT2</i> x Early Jap Δ) | F2 |
| R1T16 | <i>C. dentata</i> x <i>C. crenata</i> , HH R1T6 x WL R34T6 | F1 |
| R1T17 | 'Colossal' x 'Lockwood' 2014 (also planted in the Commercial Orchard #5) | |
| R1T18 | <i>(C.dentata</i> x <i>C. crenata)</i> x <i>C. dentata</i> cross #3-09 NH R1T11 x RH(5) R2T4 | BC1 |
| R1T19 | <i>C. ozarkensis</i> x <i>C. crenata</i> , NH R2T2 x WL R34T6, 2011 | F1 |
| R2T1 | ? | |
| R2T2 | <i>C. ozarkensis</i> x <i>C. ozarkensis</i> cross #8-02, CC RetaT4 x CC RgammaT3 (both Arkansas) | |
| R2T3 | <i>C. dentata</i> x <i>C. henryi</i> cross #9-09 RH(5) R2T5 x WL R32T1 | F1 |
| R2T4 | | |
| R2T5 | <i>C. ozarkensis</i> x <i>(C. henryi</i> x <i>C. ozarkensis)</i> cross #6-06, RgammaT4 x SpL R5T37, male fertile, one nut per bur | BC1 |
| R2T6 | <i>C. ozarkensis</i> Arkansas 1 from Steve Bost 2013, Nat. d-w Scott County, AR, Ouachita National Forest, o.p. | |
| R2T7 | <i>C. ozarkensis</i> x <i>C. crenata</i> , HH R2T1 x WL R34T6, 2011 | F1 |
| R2T8 | | |
| R2T9 | <i>C. ozarkensis</i> Arkansas 2 from Steve Bost 2013, Nat. d-w Scott County, AR, Ouachita National Forest, o.p. | |
| R2T10 | | |
| R2T11 | | |
| R2T12 | <i>C. ozarkensis</i> Arkansas 2 from Steve Bost 2013, Nat. d-w Scott County, AR, Ouachita National Forest, o.p. | |

| | |
|----------|---|
| R2T13 | <i>C. dentata</i> x (<i>C. pumila</i> x <i>C. crenata</i>) cross #22-94, RH(14) R2T9 x SpL R7T14 (Plantation, Δ), resistance good, male sterile |
| R2T14 | <i>C. dentata</i> x <i>C. henryi</i> F1 cross #9-09 RH(5) R2T5 x WL R32T1 |
| R2T15 | |
| R2T16 | |
| R2T17-19 | 'Eaton' x <i>C. ozarkensis</i> (OK), Kenwood orchard x HH R2T1, 2013 |
| R3T1-7 | 'Colossal' x <i>C. ozarkensis</i> (AR), commercial orchard x HH R2T2, 2013 |
| R3T7 | WATER LINE |
| R3T8-13 | 'Colossal' x <i>C. ozarkensis</i> (AR), commercial orchard x HH R2T2, 2013 |
| R3T14 | |
| R3T15-16 | 'Colossal' x <i>C. ozarkensis</i> (AR), commercial orchard x HH R2T2, 2013 |
| R3T17 | 'Colossal' x 'Lockwood', 2014 |
| R3T18 | |
| R3T19 | 'Colossal' x <i>C. ozarkensis</i> (AR), commercial orchard x HH R2T2, 2013 |

8. TURKISH CHESTNUT TREES directly south of the New Hybrids

R1T1 is at the SE corner, at the road

| | |
|-------|--|
| R1T1 | #24771, Eastern Turkey, Artvin Province, Collection 1, 2007, perox. AB |
| R1T2 | #24772, Eastern Turkey, Artvin Province, Collection 1, 2007, perox. AB |
| R1T3 | Eastern Turkey, Artvin Province, Collection 1, 2007, perox. AB |
| R1T4 | |
| R1T5 | Eastern Turkey, Artvin Province, Collection 1, 2007, perox. BB |
| R1T6 | #24770, Eastern Turkey, Artvin Province, Collection 1, 2007, perox. BB |
| R1T7 | |
| R1T8 | Eastern Turkey, Artvin Province, Collection 2, 2007, perox. AB |
| R1T9 | |
| R1T10 | Eastern Turkey, Artvin Province, Collection 2, 2007, perox. AB |
| R1T11 | |
| R1T12 | #24776, Eastern Turkey, Artvin Province, Collection 2, 2007, |
| R1T13 | |
| R2T1 | Eastern Turkey, Artvin Province, Collection 3, 2007, perox. BB |
| R2T2 | |
| R2T3 | |
| R2T4 | #24778, Eastern Turkey, Artvin Province, Collection 3, 2007, perox. AB |
| R2T5 | |
| R2T6 | Eastern Turkey, Artvin Province, Collection 4, 2007, perox. BB |
| R2T7 | #24777, Eastern Turkey, Artvin Province, Collection 3, 2007, perox. AA |
| R2T8 | Eastern Turkey, Artvin Province, Collection 4, 2007, perox. AA+ |
| R2T9 | #24781, Eastern Turkey, Artvin Province, Collection 4, 2007, perox. BB |
| R2T10 | Eastern Turkey, Artvin Province, Collection 4, 2007, perox. AB |
| R2T11 | #24784, Eastern Turkey, Artvin Province, Collection 4, 2007, perox. AB |
| R2T12 | #24783, Eastern Turkey, Artvin Province, Collection 4, 2007, perox. AB |
| R2T13 | Eastern Turkey, Artvin Province, Collection 4, 2007, perox AB |

| | | |
|-------|---|-----------|
| R3T1 | | |
| R3T2 | | |
| R3T3 | | |
| R3T4 | | |
| R3T5 | | |
| R3T6 | | |
| R3T7 | | |
| R3T8 | #24786, Eastern Turkey, Artvin Province, Collection 5, 2007, perox. AB | |
| R3T9 | #24789, Middle Black Sea region, Turkey, Ordu Province, collection 6, 2007, perox. AB | |
| R3T10 | | |
| R3T11 | Middle Black Sea region, Turkey, Ordu Province, collection 6, 2007, perox. BB | |
| R3T12 | <i>C. ozarkensis</i> x <i>C. henryi</i> , NH R2T2 x WL R32T1, 2011 | F1 |
| R3T13 | <i>C. ozarkensis</i> x <i>C. henryi</i> , NH R2T2 x WL R32T1, 2011 | F1 |

9. HUMPHREY HILL

| West end | along the north end, small trees | East end |
|--|----------------------------------|----------|
| C. henryi GA FL pum. MD pum. MD pum FL pum. FL pum. MD pum. C. hen.? MD pum. C. henr.? | | |
| C. pumila from North Florida, planted July 2011, | | |
| C. pumila from Maryland planted 2014 | | |
| C. henryi from Callaway Gardens, GA (See Beyond the Rock) | | |
| C. henryi hybrids Schumacher, pl. 2013 | | |

R1T1 is at the NE corner

| | |
|--------|---|
| R1T1 | <i>C. dentata</i> x (<i>C. ozarkensis</i> x <i>C. seguinii</i>) "Windsor Nice #1" moved here from Windsor in 2006 one nut/bur! cross #19-93, RH(3) R4T2 x WL R29T14 (#23-60) |
| R1T2 | <i>C. sativa</i> from Bursa, Turkey; wild population #010, seed 1990, planted 1991 (peroxidase AA) |
| R1T3 | <i>C. ozarkensis</i> x <i>C. ozarkensis</i> cross #8-02, CC RetaT4 X CC RgammaT3 (both Arkansas) |
| R1T4-5 | <i>C. sativa</i> from Bursa, Turkey; wild population #018, seed 1990, planted 1991 (peroxidase AA, AA) |
| R1T6 | <i>C. dentata</i> Roxbury #2 op: open-pollinated seedling from tree #2 in a group of American chestnut sprouts on Painter Hill Rd. in Roxbury, CT seed 1988, planted 1989, no leaf hairs (peroxidase AA) |
| R1T7-8 | <i>C. crenata</i> open pollinated ' Japanese Giant ' from Rochester, NY, seed 1990, planted 1991 (peroxidase BB) |
| R2T1 | <i>C. ozarkensis</i> Ouachita National Forest, OK, planted 2004 |

- R2T2 *C. henryi* o.p. WL R32T1 o.p. 2009 (has 3 nuts per bur, male fertile)
R2T3-4 *C. sativa*
from Bursa, Turkey, wild population #018, seed 1990, planted 1991
(peroxidase AA, & AA)
- R2T5 *C. sativa*
European (Black Forest, Germany), seed 1984, planted here 1988
(peroxidase AA)
- R2T6 *C. dentata*
seed 1984 from E. Wisniewski, Norwich, CT, planted 1988 no leaf hairs
(peroxidase AA)
- R2T7 *C. dentata*
Rox 2 op, see R1T6, no leaf hairs (peroxidase AA)
- R2T8 *C. mollissima*
Chinese, cultivar '**Orrin**', planted 1963
- R3T1 *C. mollissima*
Chinese, cultivar '**Kuhling**' PI #108552, "K'uei Lee"
from Louis Gerard Nursery in Illinois, planted 1961
- R3T2 *C. sativa*
from the Cavcas Biosphere Reserve, seed 1993, planted 1994
collected by Fred Paillet (peroxidase AA)
- R3T3 *C. sequinii* x *C. sequinii*, HH R4T2 x SL R8T4, 2011
R3T4 *C. sativa* hybrid
looks like a European X Japanese hybrid, seed from E. W. Morse,
Grandview, Washington, 1944 as "various unidentified" nuts, moved
here 1952
- R3T5 *C. mollissima*
"wild Chinese" from Dr. Liu Liu, Nanjing, seed 1992, planted 1994 [perox AB]
- R3T6 *C. dentata*
American, seed 1985 of Watertown III X Watertown I, trees in upstate
New York thought to have some blight resistance, seedling from W.
Mac Kentley, St. Lawrence Nurseries, Potsdam, NY, planted 1989, no leaf
hairs (peroxidase AA)
- R3T7 *C. mollissima*
Chinese, cultivar '**Abundance**' from Louis Gerard Nursery in Illinois,
planted 1963
- R3T8 *C. dentata*
seedling of Watertown III x Watertown I, see notes R3T6, planted 1989
(peroxidase AA)
- R4T1 *C. pumila*
from Empire Chestnut Co., 2000 (peroxidase AA)
- R4T2 *C. sequinii* x *C. sequinii*
cross #4-98 of SL R8T4 x SL R2T16, planted 1999, perox. A+BB
- R4T3 '**Scientists' Cliffs**' x *C. dentata*
'**Scientists' Cliffs**' x Roxbury #5, planted 1990, no leaf hairs

- R4T4 *C. mollissima* x *C. mollissima*
cross #15-90, `Mahogany' SL R1T15 x `Tiger Paw' SL R9T2,
planted 1991, very late blooming, (peroxidase AA+),
- R4T5 *C. crenata* X *C. sativa*
`AW 74' Japanese x European "natural hybrid" from near Brive, France
(1946) sent by Solignat as a graft, buried in-arch resulted in rooting,
hybrid now on its own roots planted 1961
- R4T6-7 *C. dentata*
American, Watertown III x Watertown I, see notes R3T6, planted 1989
no leaf hairs (peroxidase AA)
- R4T8 [(*C. crenata* x *C. sativa*) x *C. dentata*] o.p.
`Lockwood'
seedling from SL R4T3 (Plantation) open pollinated, 1946:
SL R4T3 is `Hammond-'86', from cross #86-31: Its male parent was a tree
near Washington, DC (FP 551). Its female parent was the east branch of a
tree managed by P. Hammond, Syosset, Long Island, New York, (estate of
Bronson Winthrop). The Long Island tree was grafted with two leaders: one
with a single nut in each bur, (east branch) and the other with three nuts per
bur (west branch; broken off in Hurricane Gloria, 1985). A peroxidase test
was done on material from the surviving east branch in 1994, and it was AB,
proving that it was not pure Japanese (as Hammond assumed) but a hybrid.
We believe that the east branch was Japanese X European and the west
branch (probably the root stock) was Japanese. The hybrid `Hammond-'86'
has good blight resistance. `Hammond-'86' was open pollinated in 1946
(probably by Japanese), and seedling `Lockwood' was planted here about
1957 (peroxidase BB)
- R5T1-2 *C. alnifolia*
Florida chinquapins from Lafayette County (50 miles NW of
Gainesville,FL) in an oak-pine forest with sandy soil, collected by R. D.
Wallace, Chestnut Hill Nursery, planted 1995, bloom late and seed rarely
matures, not winter hardy (peroxidase AA & AA)
- R5T3-6 American persimmons
These were originally grafted with Asian cultivars, but all of the grafts died.
The American seedlings were collected near Aurora, Arkansas in 1937

TOP OF HUMPHREY HILL

10. DENSE PLANTING OF AMERICAN CHESTNUT TREES

C. dentata, from the Wexford County Soil and Conservation District, Michigan, 226
seedlings planted at the top of the hill in April, 1981, used mixtures of hypovirulent strains,
last treatment 1988. The tree in the NW corner used in crosses in 1988 is peroxidase AA

11. HYBRID CHESTNUT TREES (South of the Dense Michigan tree Planting)

R3T1 is on the North-East corner

- R3 T1, 2 **DW1 = 'Hope', and DW2**, same origin as **'Little Giant'** (below)
- T3 "*C. dentata*" from Schlarbaum, #90027, from State Nursery 2002 (mycorrhizae)
- T4 #24785, Eastern Turkey, Artvin Province, Collection 5, 2007
- T5 "*C. dentata*" from Schlarbaum, #90027, from CT State Nursery 2002 (mycorrhizae)
- T6 Eastern Turkey, Artvin Province, Collection 5, 2007
- T7 "*C. dentata*" from Hibben (Lasden Arboretum, CT) via Schlarbaum, #90025, from CT State Nursery 2002 (mycorrhizae)
- T8 *C. crenata* Bee & Thistle o.p., CT State Nursery 2002
- T40-42 large DW trees

R4 T3 **'King Arthur'** (peroxidase BB) same origin as **'Little Giant'** (below)

R5

R5 T12 **'Little Giant'** (peroxidase BB), origin as follows:

| | | |
|---------------------------|--|---------------------------|
| PI #70315 | | PI #70317 |
| Hardy tree from NE China | | F.A. McClure, China |
| seed purchased 1926 | | Chiuhywashaan, Anhwei, |
| planted (Plantation) 1929 | | called "Mo lut tsz" |
| | | planted (Plantation) 1929 |

| | | |
|----------------------------|-------------------|--------------------------|
| <i>Castanea mollissima</i> | 1934 cross | <i>Castanea seguinii</i> |
| <u>South Lot R1T12</u> | ↓ | <u>South Lot R3T8</u> |
| (female) | ↓ | (male) |



| | | |
|-----------------------------------|-------------------|-----------------------------------|
| <i>C. (mollissima x seguinii)</i> | 1951 cross | <i>C. (mollissima x seguinii)</i> |
| <u>South Lot R2T11</u> | ↓ | <u>South Lot R12T6</u> |
| (female) | ↓ | (male) |

C. [(*mollissima x seguinii*) x (*mollissima x seguinii*)]
West Lot R23T12

- 1971** R.A. Jaynes collected open pollinated seed from West Lot R23T12, and planted 76 seedlings at Lockwood Farm (on Humphrey Hill)
 - 1973** one of the 1971 trees had a heavy crop of nuts (open pollinated), Jaynes planted 12 seedlings from these in Row 5
 - 1977** R5T12 was a very small tree with large nuts, and prolific production in 1976, 1977, and 1978
- First called "Dwarfest" by Anagnostakis, then named **'Little Giant'**

12. Species and hybrids

Rows 6, 7, 8, and 9 were planted in the spring of 2004 and 2005. Long numbers are Ozark chinquapins from the Ozark Plateau in Oklahoma, raised in the Georgia nursery, and sent here (dormant) by Scott Schlarbaum in 2004.

(starting at the NORTH-EAST end)

| | | |
|------------------------------|-------------|-------|
| <u>Row 6 EAST ozarkensis</u> | ... | ... |
| 13281 1 perox AA | ... | 12031 |
| 13287 2 AA | #7.5-03 | ... |
| 13272 3 AA | #7.5-03 | ... |
| 43266 | #7.5-03 | |
| ... | 12848 18 AA | |
| ... | 12832 19 AA | |
| ... | 13032 20 AA | |
| 42087 | ... | |
| ... | 12022 21 AA | |
| 12071 4 AA | ... | |
| 12054 5 AA | | |
| 12055 | 12819 22 AA | |
| 12076 6 AA | ... | |
| ... | .. | |
| 13335 7 AA | 13377 23 | |
| 12053 8 AA | ... | |
| 12072 | 13260 24 AA | |
| 13346 9 AA | 13255 25 AA | |
| 12073 10 AA | 13259 26 AA | |
| 13345 11 AA | ... | |
| 13347 12 AA | ... | |
| 13340 | ... | |
| 43333 | ... | |
| ... | 12033 27 AA | |
| ... | 12016 28 AA | |
| ... | 12018 | |
| 12868 13 AA | 12014 | |
| 12855 14 AA | 12010 29 AA | |
| 42862 | 12017 | |
| ... | ... | |
| 12847 15 AA | 12004 | |
| ... | 12030 | |
| 12861 16 AA | 12013 | |
| 12853 17 AA | 12019 30 AA | |
| | ... | |
| ... | 12021 | |
| ... | 12006 | |
| | ... | |

| | |
|----------------------------|-------|
| <u>Row 7 next WEST row</u> | ... |
| Cross 4, 2003 | ... |
| HH R1T1 x 'Little Giant' | ... |
| #4-03 Wn nice*LG | 12881 |
| . | 12975 |
| . | ... |
| #14-04 Wtn x Rox | ... |
| #4-03 | 12909 |
| #14-04 Wtn X Rox | |
| #4-03 Wn nice*LG | |
| #4-03 | |
| #4-03 | |
| #4-03 | |
| #16-04 K Art x LK | |
| #4-03 | |
| #18-06 | |
| #18-06 | |
| #18-06 | |
| #8-06 | |
| #7-06 | |
| #12-06 | |
| #9-06 | |
| #9-06 | |
| #10-06 | |
| #10-06 | |
| ... | |
| ... | |
| 12982 ozarkensis | |
| 12882 ozarkensis | |
| ... | |
| ... | |
| ... | |
| ... | |
| 12967 | |
| ... | |
| ... | |
| ... | |
| ... | |
| ... | |
| ... | |
| 13072 | |
| ... | |

| | |
|------------------------|----------------------------|
| <u>Row 8 next WEST</u> | #8-03 |
| #4-03 HH R1T1 X LG | #8-03 |
| #4-03 | #8-03 |
| #4-03 | ... |
| #4-03 | ... |
| #4-03 | ... |
| #4-03 | #8-03 |
| #4-03 | #8-03 |
| #4-03 | ... |
| ... | #8-03 |
| #4-03 | #8-03 |
| #4-03 | ... |
| #4-03 | #8-03 |
| ... | ... |
| ... | and 14 #17-03 trees |
| ... | <u>Morris (Merribrook)</u> |
| #6-03 BC3 (C)RH R3T20 | <u>Stamford</u> |
| #6-03 | ... |
| #6-03 | ... |
| #7-03 BC3 (C)RH R3T14 | ... |
| #7-03 | ... |
| ... | ... |
| ... | ... |
| ... | ... |
| ... | ... |
| ... | ... |
| ... | ... |
| #7-03 | ... |
| ... | ... |
| ... | ... |
| ... | ... |
| #7-03 | ... |
| #7-03 | ... |
| ... | ... |
| #7-03 | ... |
| #7-03 | ... |
| #7-03 | ... |
| #7-03 | ... |
| #7.5-03 | ... |
| BC3(C)RHR4T14 | ... |
| #7.5-03 BC3 (C) | ... |
| ... | ... |
| #8-03 BC3 (C) | ... |
| ... | ... |
| #8-03 | ... |

| | |
|------------------------------|---------------------|
| <u>Row 9 (west of Row 8)</u> | #12-04 |
| NW corner | #12-04 |
| #16-04 KArt x Lk = | #12-04 |
| 'Gimli' | #12-04 |
| #16-04 | #12-04 |
| #16-04 | #12-04 |
| #16-04 | #12-04 |
| #16-04 | #12-04 |
| #16-04 | #12-04 |
| #16-04 | #12-04 |
| Rock pile | #12-04 |
| #29-06 DW2 x | #12-04 |
| 'Lockwood' | #23-04 Library o.p. |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| #29-06 | #23-04 |
| Big rock | |
| #12-04 Rox x S8 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |
| #12-04 | |

Row 10, next West

1. HH ozarkensis x HH
R4T7 Watertown
American (2008 seed)
3. HH ozarkensis x HH
R4T7 Watertown
American (2008 seed)
4. HH ozarkensis x HH
R4T7 Watertown
American (2008 seed)
5. HH ozarkensis x HH
R4T7 Watertown
American (2008 seed)
- 6.
- 7.

Bee and Thistle o.p.

C. crenata trees in rest of
row

Row 11, next West

HH *ozarkensis* x SpL
R7T61 **BC1**
oz x (*crenata***ozarkensis*)
cross #6-08 (15 alive)
[WL R7T7 x Ark.
RgammaT3]

Row 12, next West

1-6 HH R1T6 x HH R4T7
Rox x Watertown
7-9 KA *Lock x HH
R4T7, #16-04 x
Watertown
10-36 #7-08 HH oz x
SpL R8T62 **BC1**
oz x oz*J Δ
(24 alive)

13. WEST OF THE ROCK, ROCKY HILL ORCHARD

Seed was from a wood-lot in Rocky Hill, CT in 1985 (open pollinated) from numbered female trees, planted at Smith College in a seed bed. Trees were transplanted to Lockwood Farm in the spring of 1988, and replacements for dead trees moved in the spring of 1989.

R1T1 (at the SE corner) RH #2 op, peroxidase AA
R1T2-3 RH #3 op, both peroxidase AA
R1T4-7 RH #5 op, all peroxidase AA
R1T8 RH #11 op, peroxidase AA
R1T9-10 RH #14 op, both peroxidase AA
R1T11 RH #26 op, peroxidase AA
R2T1 RH #2 op, peroxidase AA
R2T2 RH #3 op, peroxidase AA
R2T3-6 RH #5 op, all peroxidase AA
R2T7 RH #11 op, peroxidase AA
R2T8 RH #5 op, peroxidase AA
R2T9 RH #14 op, peroxidase AA
R2T10-11 RH #26 op, both peroxidase AA
R3T1-3 RH #3 op, all peroxidase AA
R3T4 RH #5 op, peroxidase AA
R3T5-6 RH #5 op, both peroxidase AA
R3T7 RH #3 op, peroxidase AA
R3T8 RH #14 op, peroxidase AA
R3T9 RH #5 op, peroxidase AA
R3T10 RH #3 op, peroxidase AA
R3T11 RH #26 op, peroxidase AA
R4T1-2 RH #3 op, both peroxidase AA
R4T3-6 RH #5 op, all peroxidase AA
R4T7 RH #11 op, peroxidase AA
R4T8 RH #14 op, peroxidase AA
R4T9 RH #3 op, peroxidase AA
R4T10 RH #11 op, peroxidase AA

THE ROCKY HILL PLANTING WAS EXTENDED IN JUNE 1996

R3T13-14 [(*Castanea dentata* x *mollissima*) x *C. dentata*] x *C. dentata* **BC2**
cross #7-95, NH R2T10 x RH(14) R3T8
[SL R10T12 x RH(5) R4T3]
R3T216-17? [(*Castanea dentata* x *mollissima*) x *C. dentata*] x *C. dentata* **BC2**
cross #7-95, NH R2T10 x RH(14) R3T8
[SL R10T12 x RH(5) R4T3]
R4T12 [(*Castanea dentata* x *mollissima*) x *C. dentata*] x *C. dentata* **BC2**
cross #7-95, NH R2T10 x RH(14) R3T8
[SL R10T12 x RH(5) R4T3]

| | | |
|--------|--|------------|
| T5-6 | [(<i>C. dentata</i> x <i>mollissima</i>) x <i>dentata</i>] x <i>dentata</i> cross #9-99, NH R2T10 x Walbridge, OH American | BC2 |
| T7 | STUMP | |
| T8-9 | <i>C. dentata</i> x ' Lockwood ' cross #11-94, RH(5) R1T5 x HH R4T8 | |
| T10-13 | [(<i>C. dentata</i> x <i>mollissima</i>) x <i>dentata</i>] x <i>dentata</i> cross #9-99, NH R2T10 x Walbridge, OH American | BC2 |
| T14 | <i>C. dentata</i> x (<i>C. dentata</i> x <i>mollissima</i>) cross #25-94, RH(5) x NH R3T5 | BC1 |
| T15 | [(<i>C. dentata</i> x <i>mollissima</i>) x <i>dentata</i>] x <i>dentata</i> cross #9-99, NH R2T10 x Walbridge, OH American | BC2 |

15. Nut Planting South of the Rock

South East corner

| Row 1 | Row 2 | Row 3 | Row 4 | Row 5 | Row 6 | Row 7 | Row 8 | Row 9 |
|--------------------------------|-----------------------------|---|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---|-----------------------|
| 'Sadie Hunter' | 'Colossal' x henryi 2011 | 'Colossal' x henryi 2011 1c | 'Colossal' x henryi 2011 | 'Colossal' x henryi 2011 | 'Colossal' x henryi 2011 | 'Colossal' x henryi 2011 | Persian Walnut 'Hansen' | |
| 'Colossal' x henryi 2011 | 'Eaton' x henryi 2011 | PERSIAN WALNUT 'Somers' | PERSIAN WALNUT 'Hansen' | BLACK WALNUT 'Grundy' | 'Colossal' x henryi 2011 | PERSIAN WALNUT 'Hansen' | PERSIAN WALNUT 'Broad-view' | |
| 'Colossal' x henryi 2011 | 'Eaton' x henryi 2011 | 'Colossal' x henryi 2011 | 'Eaton' x henryi 2011 | BLACK WALNUT 'Vander-sloot' | 'Eaton' x henryi 2011 | 'Eaton' x henryi 2011 | 'Eaton' x henryi 2011 | |
| HH R1T6 x C. henryi 2011 | | CHESTNUT 'Schlarbaum' Wash. Ches. 2020 | GA 31 C. henryi (GA) 2011 | GA 30 C. henryi (GA) 2011 | GA 30 C. henryi (GA) 2011 | GA 30 C. henryi (GA) 2011 | 'Eaton' x henryi 2011 | |
| PERSIAN WALNUT 'Broad-view' | BLACK WALNUT 'Grundy'? | | GA 30 C. henryi (GA) 2011 | C. henryi? Schm. 2013 | C. henryi? Schm. 2013 | CHESTNUT 'Hartman' 17-8 | C. henryi? Schm. 2013 | HEART-NUT 'Rhodes' |
| X | CHESTNUT 'Orrin' | CHESTNUT 'Eaton' | CHESTNUT 'Lenoir' | PERSIAN WALNUT 'Broad-view' | C. henryi? Schm. 2013 | C. henryi? Schm. 2013 | CHESTNUT 'Schlarbaum' Wash. Ches. 2020 | |

16. Grafted Butternuts planted May 2012, April 2013, updated 5 June 2013

South East corner

| | | | | | |
|---------------------|------------------------|---------------------|--------------------|---------------|-------------------|
| | PA 25-9 | PA 64-4 | | PA 18-4 | PA 18-4 |
| | VT Richmond A-19 | | | PA 18-4 | PA 64-4 |
| | IA 12004 | BUT BS #1 | PA 61-1 | PA 64-4 | PA 25-4 |
| VT Williston #4 | | PA 61-1 | | | PA 61-1 |
| BUT RS #1 | | PA 5-8 | VT Williston #2 | | |
| VT Williston #1 | VT Fox Run #1 | VT St. Albans #3 | PA 10-2 | | |
| | PA 64-1 | VT St. Albans #3 | | | MOCA 17 |
| PA 64-6 | | PA 59-6 | | PA MOCA 17 | PA 10-9 |
| VT St. Albans #2 | IA 021001 | PA 17-1 | PA 10-2 | PA 10-8 | VT Williston#2 |
| PA 17-1 | | BUT BS #1 | PA 10-9 | PA 10-2 | |

17. Elm trees

From Gene Smalley, planted spring 1992

South-East end

| | | | | | | |
|----------------------|--------|--------|--------|--------|---------|--------|
| <i>U. parvifolia</i> | 2213 | 2213 | 2245-9 | 2245-9 | 2245-9 | 2245-9 |
| all | " | 2244-1 | 2245-3 | " | " | 2250-1 |
| this | " | " | " | " | 2245-10 | " |
| row | " | " | " | " | " | " |
| | " | " | " | " | " | " |
| | " | " | " | " | " | " |
| | " | " | " | " | " | " |
| | " | " | " | 2245-8 | " | " |
| | 2276-1 | " | " | " | " | " |
| | " | 2233-1 | " | " | 2247-3 | " |
| | " | " | 2245-2 | " | " | |
| | " | " | " | " | " | |
| | " | " | " | " | " | |
| | " | " | " | " | " | 2245-5 |
| | " | " | " | " | " | " |
| | | | | | | |

18 Fagaceae Genetics Project

2006

- Crossed 'Mahogany' X 'Nanking' pollen (*Castanea mollissima* X *C. mollissima*)
 - WL R1T15, PI# 70315 X Greg Miller pollen, PI# 108552
 - 277 nuts sent to F. V. Hebard, Meadowview, VA
 - Some seedlings returned (bare-root) in 2008, but none survived transplanting
- Crossed Spring Lot R4T52 X SpL R4T31
 - (*C. mollissima* X *C. dentata*) X (*C. mollissima* X *C. dentata*)
 - ('Mahogany' X Roxbury, CT #1) X ('Mahogany' X Roxbury, CT #4)
 - 74 nuts sent to F. V. Hebard, Meadowview, VA

2007

- Crossed 'Mahogany' X 'Nanking' pollen (as above)
 - 304 nuts planted in the greenhouse, CAES
 - seedlings tagged/numbered and individual leaves sent to T. Kubisiak in Saucier, MS for DNA
 - seedlings planted at Lockwood Farm (CAES), Hamden, CT in 2008
- Crossed SpL R4T52 X SpL R4T31
 - (*C. mollissima* X *C. dentata*) X (*C. mollissima* X *C. dentata*)
 - ('Mahogany' X Roxbury, CT #1) X ('Mahogany' X Roxbury, CT #4)
 - 77 Nuts planted in the greenhouse, CAES
 - Seedlings given to F. V. Hebard, Meadowview, VA in 2008
- Crossed SpL R4T31 X SpL R4T52
 - (*C. mollissima* X *C. dentata*) X (*C. mollissima* X *C. dentata*)
 - ('Mahogany' X Roxbury, CT #4) X ('Mahogany' X Roxbury, CT #1)
 - 58 Nuts planted in the greenhouse, CAES
 - Seedlings given to F. V. Hebard, Meadowview, VA in 2008

2008

- Crossed 'Mahogany' X 'Nanking' pollen (as above)
 - 70 nuts planted in the greenhouse, CAES
 - seedlings tagged/numbered and individual leaves sent to T. Kubisiak in Saucier, MS for DNA
 - seedlings planted at Lockwood Farm (CAES), Hamden, CT in 2010
 - trees 10 ft apart in rows 10 ft apart
- Crossed SpL R4T52 X SpL R4T31
 - (*C. mollissima* X *C. dentata*) X (*C. mollissima* X *C. dentata*)
 - ('Mahogany' X Roxbury, CT #1) X ('Mahogany' X Roxbury, CT #4)
 - 1 Nut planted in the greenhouse, CAES
 - Seedling given to F. V. Hebard, Meadowview, VA in 2009
- Crossed SpL R4T31 X SpL R4T52
 - (*C. mollissima* X *C. dentata*) X (*C. mollissima* X *C. dentata*)
 - ('Mahogany' X Roxbury, CT #4) X ('Mahogany' X Roxbury, CT #1)
 - 10 Nuts planted in the greenhouse, CAES
 - Seedlings given to F. V. Hebard, Meadowview, VA in 2009

Total number of *C. mollissima* #1 X *C. mollissima* #2 seed produced: 651

Total number of (*C. mollissima* #1 X *C. dentata* #1) X (*C. mollissima* #1 X *C. dentata* #4) seed produced: 152

Total number of (*C. mollissima* #1 X *C. dentata* #4) X (*C. mollissima* #1 X *C. dentata* #1) seed produced: 68

The *C. mollissima* X *C. mollissima* trees will be tended at CAES, Lockwood Farm, and available indefinitely for future genetic studies.

South fence houses planted 9 June 2010 South West

| | | | row 11 | row 12 | row 13 | row 14 | down hill |
|--|----------------|----|--------|--------|--------|--------|-----------|
| | | 1 | 24829 | 24823 | 24815 | 24836 | |
| | | 2 | 24793 | 24830 | 24822 | 24837 | |
| | t = unnumbered | 3 | 24794 | 24831 | 24817 | 24806 | |
| | | 4 | 24803 | 24832 | 24820 | 24805 | |
| | | 5 | 24842 | 24834 | 24821 | 24856 | |
| | | 6 | 24828 | 24835 | 24816 | 24852 | |
| | | 7 | 24802 | 24819 | 24810 | 24851 | |
| | | 8 | 24843 | 24814 | 24804 | 24858 | |
| | | 9 | 24844 | 24813 | 24809 | 24857 | |
| | | 10 | 24795 | 24818 | 24849 | | |
| | | 11 | 24801 | 24824 | 24808 | | |
| | | 12 | 24827 | 24847 | 24848 | | |
| | | 13 | t | 24846 | 24850 | | |
| | | 14 | t | 24825 | 24807 | | |
| | | 15 | t | 24799 | 24841 | | |
| | | 16 | t | 24800 | 24840 | | |
| | | 17 | t | 24797 | 24838 | | |
| | | 18 | t | 24796 | 24839 | | |
| | | 19 | t | 24826 | 24854 | | |
| | | 20 | t | 24845 | | | |