Cornell University Cooperative Extension

SARE Sustainable Agriculture Research & Education

**ONE12-156 – Integrating ground cover crops and new herbicide strategies (conventional and organic) for tree growth and soil health -- Part II.**

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**Lamont Fruit Farm, Mason Farms, Fowler Farms**

Table 1. Summary of 6 ground cover treatments established at two on-farm sites during 2011 and 2012 in the Western NY fruit region.

| | | | GC Mason site | | GC Lamont site |
|---|---|---|---|---|---|
| **Trt#** | **GC treatment** | **Rate (lbs/acre)** | **Seeded on June 9, 2011** | **Re-seeded on March 16, 2012** | **Seeded on August 15, 2011** |
| 1 | OVN mix[1] | 25 | X | X | X |
| 2 | OVN mix | 75 | X | X | X |
| 3 | Low-Grow mix[2] | 50 | X | X | X |
| 4 | Low-Grow mix | 100 | X | X | X |
| 5 | Native weed vegetation | | | | |
| 6 | Dutch white clover | 20 | X | X | X |

[1] OVN Mix: Orchard-vineyard-nursery mix (40% proprietary perennial rye, 30% creeping red, 30% chewing fescue).
[2]Low-Grow mix: 50% firefly hard fescue, 20% intrigue chewing fescue, 20% azure sheep fescue, and 10% minotaur blue hard fescue.

Table 2. Summary of 6 ground cover treatments established at one on-farm site during 2012 in the Western NY fruit region.

| | | | GC Fowler site |
|---|---|---|---|
| **Trt #** | **GC treatment** | **Rate (lbs/acre)** | **Seeded on May 2, 2012** |
| 1 | Native weed vegetation | | |
| 2 | OVN mix[1] | 16 | X |
| 3 | Low-Grow mix[2] | 16 | X |
| 4 | OVN mix | 22 | X |
| 5 | Low-Grow mix | 22 | X |
| 6 | Dutch white clover | 16 | X |

[1]OVN Mix: Orchard-vineyard-nursery mix (40% proprietary perennial rye, 30% creeping red, 30% chewing fescue).
[2]Low-Grow mix: 50% firefly hard fescue, 20% intrigue chewing fescue, 20% azure sheep fescue, and 10% minotaur blue hard fescue.

Table 3. Ground cover height (inches), ground cover coverage (%), and weed coverage (%) by six groundcover treatments at an on-farm research trial during 2011, 2012, and 2013 in Wayne County, NY (GC Mason site).

| | **GC height (inches)** | | | **GC coverage (%)** | | | **Weed Coverage (%)** | | |
|---|---|---|---|---|---|---|---|---|---|
| **Trt #** | **8/22/11** | **6/6/12** | **5/21/13** | **8/22/11** | **6/6/12** | **5/21/13** | **8/22/11** | **6/6/12** | **5/21/13** |
| 1 | 6.6 | 8 | 14 | 53 | 60 | 84 | 47 | 50 | 16 |
| 2 | 5.5 | 8 | 11 | 53 | 62 | 66 | 47 | 52 | 27 |
| 3 | 5.5 | 7 | 10 | 53 | 57 | 61 | 47 | 53 | 9 |
| 4 | 5.5 | 6 | 16 | 50 | 57 | 87 | 50 | 53 | 12 |
| 5 | 6.5 | 6 | 8 | 63 | 30 | 12 | 37 | 70 | 47 |
| 6 | 8 | 10 | 9 | 47 | 92 | 0 | 53 | 8 | 100 |

Table 4. Ground cover height (inches), ground cover coverage (%), and weed coverage (%) by six groundcover treatments at an on-farm research trial during 2011, 2012, and 2013 in Orleans County, NY (GC Lamont site).

| | GC height (inches) | | | GC Coverage (%) | | | | Weed Coverage (%) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Trt #** | **8/17/12** | **12/13/12** | **5/21/13** | **10/6/11** | **8/17/12** | **12/13/12** | **5/21/13** | **10/6/11** | **8/17/12** | **12/13/12** | **5/21/13** |
| 1 | 8 | 6 | 8 | 62 | 71 | 79 | 84 | 38 | 27 | 20 | 15 |
| 2 | 6 | 6 | 7 | 78 | 92 | 93 | 93 | 22 | 5 | 6 | 7 |
| 3 | 8 | 6 | 8 | 47 | 37 | 69 | 72 | 53 | 61 | 31 | 28 |
| 4 | 8 | 7 | 8 | 40 | 67 | 82 | 84 | 60 | 30 | 18 | 16 |
| 5 | 8 | 8 | 10 | 12 | 51 | 71 | 69 | 88 | 42 | 29 | 31 |
| 6 | 10 | 5 | 10 | 90 | 78 | 80 | 70 | 10 | 21 | 19 | 25 |

Table 5. Ground cover height (inches), ground cover coverage (%), and weed coverage (%) by six groundcover treatments at an on-farm research trial during 2012 and 2013 seasons in Wayne County, NY (GC Fowler site)

| | GC height (inches) | | | GC Coverage (%) | | | Weed Coverage (%) | | |
|---|---|---|---|---|---|---|---|---|---|
| **Trt #** | **8/2/12** | **9/24/12** | **5/23/13** | **8/2/12** | **9/24/12** | **5/23/13** | **8/2/12** | **9/24/12** | **5/23/13** |
| 1 (native) | 4 | 10 | 15 | 4 | 1 | 61 | 89 | 99 | 35 |
| 2 (OVN low rate) | 4 | 6 | 17 | 40 | 44 | 61 | 28 | 40 | 34 |
| 3 (Low-Grow low rate) | 4 | 4 | 20 | 22 | 16 | 52 | 28 | 70 | 48 |
| 4 (OVN high rate) | 4 | 6 | 16 | 45 | 60 | 63 | 12 | 31 | 37 |
| 5 (Low-Grow high rate) | 4 | 6 | 15 | 39 | 75 | 56 | 19 | 20 | 44 |
| 6 (clover) | 4 | 9 | 10 | 100 | 100 | 100 | 0 | 0 | 0 |