Germination Trials May 2011

Purpose: To determine percent germination of the landrace (LR) and open-pollinated (OP) peppers for percent germination and stand uniformity for seedlings. Three replications (n=50) will be performed using seedling mix only (number 1-5) and seedling mix inoculated with mycorrhizae fungi (number 1M-5M).

Materials/Procedures:

Propagation mix: Black Gold Seedling mix no additives OMRI registered 70°F (warming mat), 100% humidity (covered with top and bottom for moisture retention).

4 seeds per cell (36 cells X 4 = 144 total) 72 cell speedling tray

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 Landrace Row 1-6 Anaheim, Joe E. Parker 7-12

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| **Tray Number** | **Landrace Family/Accession** | **Notes:** |
| 1-1M Row 1-6 | “Canoncito” Field #7 original seed bank (2009) collected by Herrera 2010 from Campbell.  | In field area 2 years |
| 2-2M Row 1-6 | Tom Sena original ‘Velarde’ Estevan Arellano 2010 collected  | In field area 2 years |
| 3-3M Row 1-6 | Romolo and Estevan Greigo original seed bank  | Approximately 150 years in same field area |
| 4-4M Row 1-6 | “Canoncito” Field #7 original seed bank Campbell | 160 years in same field area |
| 5-5M Row 1-6 | Fred Martinez 2010 ‘Dixon-Arellano) | Approximately 75 years same field area |
| 1-1M Row 7-12 | Anaheim Turtle Tree Seed COOP 2010 Organic/BD |  |
| 2-2M Row 7-12 | Joe E Parker Peaceful Valley |  |
| 3-3M Row 7-12 | Anaheim Turtle Tree Seed COOP 2010 Organic/BD |  |
| 4-4M Row 7-12 | Anaheim Turtle Tree Seed COOP 2010 Organic/BD |  |
| 5-5M Row 7-12 | Anaheim Turtle Tree Seed COOP 2010 Organic/BD |  |

Figure1: Tray setup for germination studies



70F heating mat, 100% Humidity, Seed depth ¼ inch. For mycorrhizae (M) trials, seedling was inoculated with mix of fungi as listed Table 1. Mycorrhizae fungi was obtained courtesy Mycorrhizae (MycoApply®, EndoSoluble) contains 4 myco fungi, an organic slow release fertilizer, and kelp. Germination Studies Results 2011:

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| **Tray Name** | **Sow Date** | **LR Total seedling count****Row 1-6 (X)** | **OP****Seedling count****Row 7-12 (X)** | **Date data taken** | **LR %Total Germination X/144 x 100 control row 1-6**  | **LR %Total Germination X/144 with row 7-12 mycorhizzae** |
| Conservation 1 LR | 4/14/11 |  87 | 106 | 5/19/11 | 60 | 74 |
| Conservation 1M OP | 4/21/11 | 100 | 100 | 5/19/11 | 70 | 70 |
| Conservation 2 | 4/14/11 | 101 | 112 | 5/19/11 | 71 | 78 |
| Conservation 2M | 4/21/11 | 127 | 120 | 5/19/11 | 89 | 83 |
| Conservation 3 | 4/14/11 | 86 | 114 | 5/19/11 | 60 | 80 |
| Conservation 3M | 4/21/11 | 101 | 96 | 5/19/11 | 71  | 67 |
| Conservation 4 | 4/14/11 | 108 | 106 | 5/19/11 | 75 | 74 |
| Conservation 4M | 4/21/11 | 116 | 104 | 5/19/11 | 81 | 73 |
| Conservation 5 | 4/14/11 | 113 | 101 | 5/19/11 | 78 | 73 |
| Conservation 5M | 4/21/11 | 123 | 87 | 5/19/11 | 86 | 61 |