

2021 DFC Storage Tomato Variety Trials Protocol

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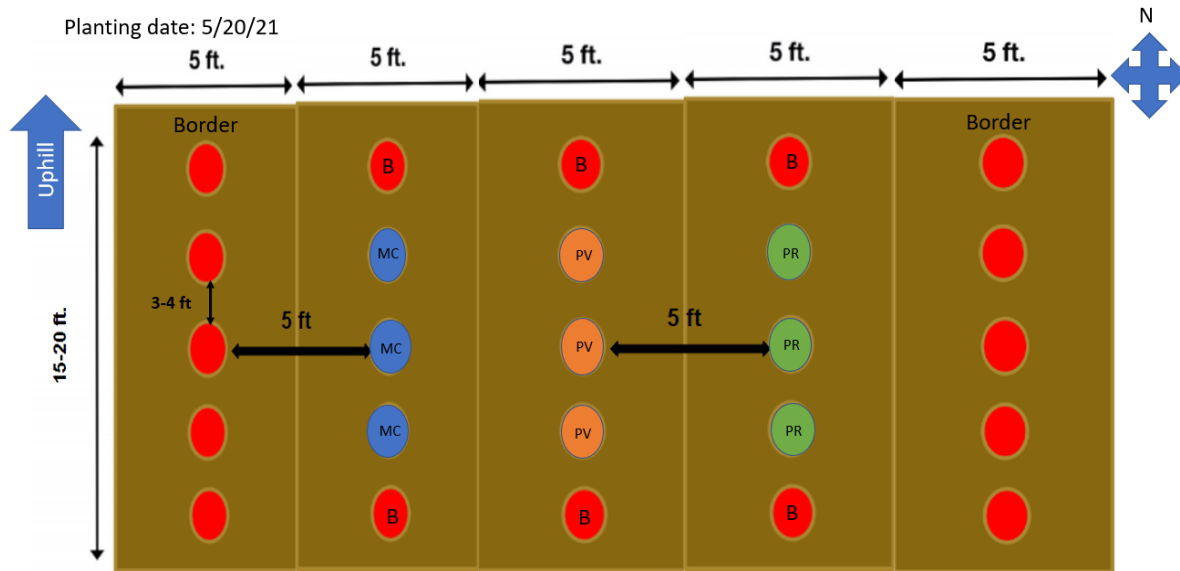
Variety	Labels	Source
Mala Cara	MC	Les Refardes
Pienollo del Vesuvio	PV	Fruition
Petit del Ramallet	PR	Les Refardes

Soil preparation

- Prepare your soil for planting as early as possible (Raised beds are not recommended for dry farming)
 - If you have 1 plant per variety you will need a minimum of 45 sqft
 - 3 per variety you will need a 135 sqft
 - 5 of each you will need 225 sqft
 - 10 per variety will require 450 sqft
- Choose a planting location within a larger dry farm plot so that you have border plants, which will prevent edge effects

Planting

- Each plant needs a minimum of 15 sqft per plant, we tend to do 5 ft between rows and 3 ft (or 4 ft) in-row spacing (See example plot above)
- All the plants need to be planted on the same day, as soon as your site conditions allow
- Tag your rows/plots and make a field map to ensure variety names are known in case the tags are lost or fade as harvest time approaches
- *If needed* one deep irrigation at time of planting allowed
- Please photograph the plot, including surroundings, and record management practices at time of planting including:
 - Planting Date
 - In-row spacing
 - Between-row spacing
 - Number of plants in plot
 - Description of border plants



B = Border MC= Mala Cara PV= Piennolo del Vesuvio PR= Petit del Ramallet

This example shows the between row and in row spacing for planting as well as the border plants which could be more tomatoes or other crops you happen to grow this year.

This example plot map shows the planting date, direction of slope, within row spacing, between row spacing, and the crop planted. Varietal should also be included in map if applicable.

Management

- Please work to diligently control your weeds
 - Removing weeds from your dry farm plot is one of the best ways to improve your yields of marketable tomatoes
 - We understand that weed management strategies may vary from grower to grower (e.g. leaf mulch, dust mulch, weeding by hand or with hoes)
- Irrigate only once if needed or not at all as we are assessing how these varieties do under dry-farmed conditions at our respective locations. For example we will likely water in our plants and not after.

Harvest:

- Harvest in bunches of 2-6 (See image below)
- Trim off blemished and less than 75% ripe tomatoes (See images on ripeness and blemish)
- Once all tomatoes have been harvested, we ask that you load them onto ristras for storage, we are not asking you to hang the entire yield just a subset of 2-3 ristras per variety (See Figure below)



How to harvest and prepare ristras: Based on a youtube videos that we have viewed (citation below) we have the following recommendation for harvest and ristra construction. When harvesting in the field, use snips to collect clusters of 2-6 tomatoes (A, B, C). Hang them in a loop made of twine (D). Place tomato clusters on either side of the loop, alternating your way up (E, F, G). Occasionally use twist ties to hold two sides of the loop together (H, I).



Light Blossom End Rot (BER, left), heavy BER (center) and sunscald (right). Sunscald photo courtesy of University of Tennessee Extension.

Storage

- We ask that a subset of the yield (2-3 ristras per variety) be stored for evaluation.
 - If possible, we would like you to store a minimum of two ristras per variety and evaluate one (1-2) on storage and the other on flavor throughout storage
- The ristras should be stored in a cool and shady place, like a garage, barn, or shed
- This will allow us to evaluate their storage potential and flavor



Example ristras of hanging tomatoes

Data Collection

You will be recording your data with us through the SeedLinked App and you will receive an email invitation to sign up for this trial.

SeedLinked App: In the SeedLinked App the data will be qualitative observations by rating traits described below on a scale from 1 to 5. Asher will send out data entry reminders throughout the season.

- **Dates to Record:** Planting, Transplanting, First Harvest, Last Harvest, and First day hanging in ristras
- **Traits to Rate (1-5 scale):**
 - Germination (for those receiving seeds): A qualitative visual rating of germination speed (how many days) and germination rate (how many seeds)

- germinated for each variety) (1= none or only one seed germinated; 5= All seeds germinated)
- Vigor: Overall plant vigor (i.e. size and growth rate) (1+ Very small and slow growth; 5= Very large and fast growth)
 - In the notes for this trait please put your fertility and Weed management methods
 - Disease Resistance: Overall qualitative disease resistance rating, based on visual appearance slightly before last harvest date (1=Most or all plants and fruit are diseased 5=No or very little presence of diseases)
 - In the notes for this trait please record any disease management methods
 - Blossom End Rot Resistance: Ability of plant to resist blossom end rot (black or brown flesh at blossom end), based on relative number of mature fruit unaffected in the middle of harvest season (see images above). (1=Most or all plants and fruit are affected 5=No or very little presence of BER)
 - Sunscald Resistance: Ability of plant to resist sunscald damage (yellow or papery flesh), based on relative number of mature fruit unaffected by sunscald in the middle of harvest season. (1=Most or all plants and fruit are affected 5=No or very little presence of sunscald)
 - Insect resistance: A visual evaluation of insect tolerance. (1=Most or all plants and fruit are impacted by insects; 5=No or very little presence of Insects)
 - In the notes for this trait please put your pest management methods
 - Earliness: A visual evaluation of earliness of harvest compared to the other varieties in the trial. (1= very late mature/ripen; 5= very early to ripen/mature)
 - Ease of Harvest: How easily harvestable is a variety from (1 = very difficult; 5=very easy)
 - In the notes for this trait please put please state if you trellised your plants or not
 - Appearance: How does this variety look in terms of edible part of the plant (1=Most or all fruit are not visually appealing; 5=Most or all fruit are appealing)
 - Marketable Yield: Overall Unblemished yield (1=0% unblemished; 5= 100% Unblemished)
 - Yield: Overall production performance of the edible part of the plant, including both unblemished and blemished yield (1= low or very little fruit production, 5= all plants produced large amounts of fruit)
 - Storage: How well it will store including time and quality? (1= Barely stored past 1- 2 months/ most of the fruit rotted quickly 5= There is still the majority or all of fruit left hanging 6-8 month out from first day of storage)
 - Flavor: How tasty is this variety compared to the others? (1= I wouldn't eat this raw or cooked; 5= This is my new favorite/I want more of these)
 - Overall Impression: Overall performance impression of the crop (1= Performed poorly, wouldn't grow again, 5 = I want to grow this again)

Sources

CasaBarone, director. *Il Pomodorino Del Piennolo Del Vesuvio DOP*. YouTube, YouTube, 4 Mar. 2014, www.youtube.com/watch?v=s-8EAeGz7sI&ab_channel=casaBarone.

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Newsrimini, director. *New Farmers 2019/2020: The D.O.P Vesuvio Piennolo Cherry Tomato*. YouTube, European Commission., 8 Apr. 2020, www.youtube.com/watch?v=O6Bf3brSuTo&t=188s&ab_channel=icaroplay.