



MAY 2021 | BLOG 1

WHAT IS TOMATO TRANSPLANTING?

A NEIL JONES FOOD COMPANY BLOG
FOR CURIOUS FOODSERVICE PROS

TENDING THE SEEDS THAT GROW

"You know, farming looks mighty easy when your plow is a pencil and you're a thousand miles from the field."

- Dwight D. Eisenhower

Many of us don't know where our food comes from, or how it's grown. That's understandable. We can't *all* be farmers. But in the tomato processing industry, your end product is only as good as your fresh product. It's essential that your operations be efficient, sustainable, and catering to your customers' diverse tastes and application needs right from the start.

At the Neil Jones Food Company, we take our Agricultural Operations very seriously. To shed some light on the early stages of tomato farming I asked our Director of Agricultural Operations, **Frank Pitts**, to explain the process of tomato transplanting to me. With the help of our Senior Field Operations Supervisor, **Robert Krahn**, I compiled

A Conversation with
NJFC Director of
Agricultural Operations,
Frank Pitts &
Senior Field Operations
Supervisor,
Robert Krahn

By Kelly Jones

*NJFC Marketing and
Communications Coordinator*

an edit of our conversation here. Needless to say, they had a lot of knowledge to share, and though I may not be "farmer material," I enjoyed learning and living vicariously through them. I hope you will too.

WHY TRANSPLANTING?

KJ: *Hi Frank and Robert! Thanks for sharing your expertise with me.*

I think a lot of us are familiar with the idea of tomato transplanting - starting a tomato plant in a greenhouse and then moving it to the field - but why do we do that? Can you share some of the history with us?

FP + RK: Hi Kelly! There are several reasons why we use transplants to establish the tomato crop - labor costs, water conservation, weed management and seed costs.

LABOR

In the "old days" of direct seeding (planting seeds directly into the field), growers would plant anywhere from 75,000 – 100,000 seeds per acre. This was to combat the risk of seeds not emerging for a myriad of reasons including weather, insects, birds, etc. Once planted, farmers would then need to physically move sprinkler lines during the seed emerging process to ensure adequate watering.

After the crop was established, a "thinning" crew (made up of dozens of people) was required to walk through the fields to rogue out any unneeded tomato plants. Today, these crews aren't needed since tomato plants are mechanically planted at the optimal, predetermined spacing.



Transplants in the field.

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In short, transplanting has decreased the need for sprinkler line movers, thinning crews and most weeding crews.

Additionally, direct seeding required a "weeding" crew (again, made up of dozens of people) to go through the field and remove weeds by hand. Now, transplanting allows the grower to mechanically or chemically kill the weeds prior to transplanting since there is no emerging process requiring the watering of the fields.

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WATER

With direct seeding, during the seed's emerging process, the soil would need to be kept moist to allow the seedling to break through the top-soil. This required large sets of sprinklers that had to be moved by hand (as mentioned before) and used a tremendous amount of water.

Today, the transplanting process with the help of drip irrigation, uses drastically less water with more efficient results. For instance, one of our growers, Worth Farms in Huron, CA reported over a 30% water savings after completely converting to drip irrigation (<http://driptips.toro.com>).

Now, 100% of the NJFC tomato crop utilizes drip irrigation.



Transplants in their protective bins for transport to the field.

WEEDS

Weeds in direct seeded fields were always an issue, because the weed seeds emerged with the tomato seeds. By using transplants, a grower can pre-irrigate his field and use an herbicide to control the weeds prior to transplanting.

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The hybridization process has allowed growers to breed tomatoes with specific characteristics catering to qualities like uniformity, taste, color, size, etc. which allows for a better, more consistent finished product.

SEEDS

Over the years, the tomato processing industry has moved to using hybrid seed varieties, exclusively. Open pollinated varieties are no longer used. The hybridization process has allowed seed producers to breed tomatoes with specific disease resistance and characteristics catering to qualities like uniformity, taste, color, size, etc. This enables the growers & processors to produce a better, more consistent, finished product. Open pollinated varieties could be unintentionally crossbred in the field (via bees or other insects) which could change the characteristics of the tomatoes.

Hybrid seeds now cost up to 10x as much as they did in the mid-90s, and although they're far more resilient, it's in our best interest to cultivate these seeds in the most optimal conditions available. Simply put, transplants are easier to grow! There are less issues in establishing the crop.

TRANSPLANTING BASICS

KJ: I'll say! What time of year do tomatoes get planted in the greenhouse?

FP + RK: Tomatoes are seeded in the greenhouse in mid-December through April.

KJ: Then what time of year do tomatoes get transplanted into the fields?

FP + RK: Transplanting begins in late February and is usually done by late May.

KJ: What is the process like transitioning the tomato plant from the greenhouse to the field?

FP + RK: Early in the season the plants are in the greenhouse for 60 days due to cold temperatures and shorter daylight hours. As the season progresses, the plants need less days in the greenhouse because the temperatures rise and daylight hours increase.

When the plants are ready, the trays of plants (350-450 plants/tray) are placed into large bins which are then loaded onto semi-trucks. The trucks deliver the plants to the field where the bins are unloaded. The transplanting crews load the trays onto the planters as needed and begin the transplanting process in the fields.



Transplants in trays stacked on transplanter and ready for the field.

KJ: What conditions lead to a tomato transplant's success or failure?

FP + RK: It all starts with Mother Nature. Rain, hail, frost, excessive heat, high winds, insect vectored diseases.... Any of these variables can, and have, destroyed crops.

If you have good quality transplants coupled with favorable weather during the planting and growing seasons you should have a fairly successful harvest season. Any unfavorable occurrences mentioned above do not necessarily lead to failure, they will just cost the grower money to combat whatever issue may be affecting his or her field. The more issues to combat, more money will be spent.

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