



# A ROSE'S JOURNEY

How roses make their way from farm to florist.  
By Bruce Wright

At Valentine's Day or at any time of year, roses typically travel a long way before they reach your shop. What happens to them along the way makes a big difference to how they open up and how long they last—both in your shop and in your customer's home.

The journey varies quite a bit, depending on such factors as where the roses are grown and whether they are delivered first to a wholesaler (the traditional, and still the most common chain of distribution) or shipped directly from the farm to a retail shop. Here is one example of the journey—with notes about alternative routes and best practices. The information in this story comes from a variety of sources including Royal Flowers ([www.royalflowersecuador.com](http://www.royalflowersecuador.com)). Royal is one of a handful of rose suppliers who control quality by maintaining direct control over the rose's journey, from the farms in Ecuador to when the flowers are delivered to a trucking company in Miami.

**DAY 1:** Roses grown in Colombia or Ecuador are cut in the grower's greenhouses and quickly transported via hanging trolleys to the grower's facility for grading and bunching. At Royal Flowers, the roses are in water during this entire process, except when they are bunched, says Rex Thompson, director of sales and marketing. "Then they are put into hydrating solution and hydrated in cold rooms overnight. This is very important to strengthen and prepare them for transport. They don't get put into boxes until they're prepared and conditioned to make that flight."

**DAY 2:** The bunches are taken out of the solution, the bottoms of the stems are dried off, and the roses are packed into boxes and delivered to a cargo agency on Day 2. The

cargo agency does everything necessary to prepare the roses for delivery to the airlines. That process involves such things as setting up waybills, getting the flowers pre-inspected, barcoding and precooling the boxes, consolidating the shipments, and maintaining them in temperature-controlled facilities near the airport. At Royal Flowers, the cargo agency is a division of Royal; other growers may use independent cargo companies to handle the logistics of shipping flowers by air.

Before roses are loaded onto a plane to Miami, it's essential that they be hydrated and conditioned. At Royal Flowers, that means one hour for each 10 centimeters of the rose stem length, for a total of six to eight hours at 33-35 degrees F.

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The situation is a little different in Colombia, where cargo companies also operate, but without performing all of the same functions; typically, the growers deliver right to the airlines. Also, Colombian roses may fly out that same day, owing to airport restrictions in Quito, Ecuadorian roses, delivered to a cargo agency in the afternoon, must wait until the following morning for a flight.

Once the flowers arrive in Miami, the same cargo company might be responsible for receiving the flowers, getting them cleared through customs, paying taxes, breaking down the consolidated shipments, and precooling the boxes again before delivering them to a trucking company. Or, these functions might be handled by a broker, distributor, or importer. At Royal, they are all handled by divisions of the same company.



cooled," using a system that forces chilled air through holes in the boxes, to a maximum of about 38 degrees F. By the time the plane lands, and certainly by the time the boxes clear customs and inspections, their internal temperature will likely have risen to perhaps 48 or 50 degrees F. A good distributor, importer or cargo company will check the temperature of the boxes and precool them once again before delivering them to a trucking company. The whole process—inspections, customs, sorting, and precooling—takes at least another day.

Breeding makes a big difference to how well a cut rose can withstand the stresses of shipping. At top left, Maria Elena Guerrero, who heads up the Esmeralda Breeding & Biotechnology program at Esmeralda Farms in Ecuador, proudly shows 'Show Time Checkmate', a new variety for which Esmeralda won the Platinum award for Best Breeder in New Varieties of Roses at the FlorEcuador Agriflor exposition this past October. 'Checkmate' is seen here in a testing greenhouse, not a production greenhouse; a rose cut for shipping would of course not be allowed to open this widely on the plant.

Below left, the harvesting of roses starts early in the morning at El Redil in Colombia and at similar farms in both Colombia and Ecuador. Typically, it takes from 30 minutes to an hour from picking to processing, from harvest to packing room.

At most flower farms, roses travel quickly from greenhouses to processing facilities via a trolley system like the one seen below at Esmeralda Farms in Ecuador, where the roses are held in water during the trip.



**DAY 3:** The roses take a four-hour flight to Miami and arrive in the afternoon. (The flight from Colombia is a little shorter than from Ecuador, but not by much—perhaps three and a half hours.) In Miami the roses need to be inspected for pests by the U.S. Department of Agriculture and cleared by the customs bureau. Consolidated shipments need to be sorted into separate shipments for different consignees.

In flight, the temperature in the hold of a cargo plane carrying roses is controlled, but not perfectly. When they are loaded onto a plane, boxes of roses should have been "pre-

**DAY 4:** Most roses make their way from Miami to a floral wholesaler by truck. In a sense, this is when responsibility for the shipment passes to the wholesaler, because the wholesaler hires the trucking company. "If you buy from a quality wholesaler, that wholesaler will hire a reputable trucking company," says Rex. One of the best known is Armellini Express Lines. *Flowers&* asked Willie Armellini, a family member familiar with the operation, "What misconceptions do you commonly encounter about what happens when flowers go by truck?"

"It goes a lot faster than most people

think," says Willie. When roses or other flowers are delivered by the cargo agency to the Armellini facility, they're scanned in, and an entire truck—typically, 48 feet long—is packed, box by box, in as little as an hour. "There are two drivers in every truck, so they can switch off and keep driving until all the flowers are delivered," Willie reports.

Leaving Miami, the truck will likely stop in northern Florida to pick up some of the cut foliage that is grown there. Then it continues on up the highway to cities along the East Coast, or heads inland to points west, stopping only long enough to unload boxes of flowers that



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have been strategically packed to make the unloading process as efficient as possible.

What makes the difference between a top-notch, dedicated floral trucking company and another is, of course, first of all refrigeration. At Armellini, monitors keep a record of truck temperatures: "We do that so if someone says their flowers arrived hot, we can check on it," Williee explains. "The truck really can't

nificant delays. It's not uncommon for roses to spend 12 days in transit—and at holiday times, much longer. The delays, of course, affect some customers more than others. Those who have preordered and have good relationships with suppliers fare better.

The remarkable thing is how resilient most varieties of cut roses are, providing they have been grown and processed with proper care so that they're protected from disease and infection, and—most critically—kept con-



precool. So if you put them in there at 40 degrees, they'll be delivered 40 degrees. If you put them in there at 60 degrees, they might come down to 50—but meanwhile, they'll also warm the truck interior just a little, which is why Armellini samples the temperature of the flower boxes it receives, and will reject boxes that are too hot.

**DAYS 5 AND 6:** Depending on the destination city, flowers trucked from Miami will arrive at the wholesaler usually within one or two days. Of course, it may take another day or more for the flowers to be sold to a retailer—unless they are presold and arrive in boxes ready to be passed along quickly to the retailer without additional handling or processing.

Seven days, then, is typical for this chain of distribution. Various circumstances can lengthen that time, including "rotation," when flowers are held back—by a Miami importer, say, who has purchased them on speculation—until they are sold.

At holiday times, like Valentine's Day, the sheer volume of demand puts stresses on the system that are likely to cause sig-



ersistently cool, with an average temperature lower than 40 degrees F. Under these conditions, cut flowers that have been through the distribution process outlined above will emerge from their boxes—well, as fresh as a rose.

### Faster versus colder

There are, of course, other distribution channels available today. Twenty-four-hour shipping is possible—and expensive. FedEx also offers an option that combines cargo air to Miami, chilled delivery trucks to Memphis, express air to a retailer's city and delivery vans for a total of three days from farm to retail shop. This accomplishes fast delivery but with some compromise of the cold chain.

When roses and other flowers are shipped from California, they can travel via refriger-

At Royal Flowers in Ecuador, grading of roses (below top) means checking stem length, head size and cut stage. After grading, roses are bunched prior to conditioning and precooling. Boxes of roses are typically barcoded so they can be tracked throughout their journey. Holes in the sides of the boxes allow for "precooling" with forced air to insure a low temperature inside the box at various stages of their journey.

ated truck all the way, a process that can take anywhere from one to four days. From a cold-chain point of view, this method of distribution is in many ways the ideal—depending, as always, on growers, shippers, and wholesalers following best practices. It also offers the possibility of shipping flowers in a holding solution or some other kind of wet pack, so they remain hydrated all along the way.

Studies have been made comparing these different modes of transport without swaying all buyers to one system or another. All of the options offer a fundamental tradeoff: the faster the transit time, the more likely it is to involve more time on a plane, where the temperature cannot be as well controlled as it is on trucks.

The value of speed can be overestimated. Remember that a chilled rose is hibernating. Its metabolism has been slowed down, so that, essentially, time and the aging process slow down likewise. When the "cold chain" is broken, the rose becomes vulnerable to the potential negative effects of ethylene and of disease, especially botrytis, that may be lurking inside its petals.

In the end, the success of the rose's journey depends not only on the route taken, but on the conscientious care taken by its custodians along the way. What's a retailer to do? The best advice is the perennial advice:

One, buy from trusted suppliers who have, in turn, trusted partners all along the chain of distribution, so you know that no matter how long their journey, your roses have been well cared for every inch of the way.

Two, order ahead. "Don't underestimate the difference it makes when you give your wholesaler the order in advance," advises Rex at Royal Flowers. After all, careful planning on the part of all partners in the chain is what makes the chain work—and when it works, it works very well indeed. 🌹