# Stem Elongation in *Cut Flowers:*

A disturbed balance of plant growth regulators (PGRs) is one of the three main post-harvest challenges in cut flowers. Once a flower is cut from the plant, it can no longer rely on the natural supply of growth regulators provided by the mother plant. As a result, some flowers produce too much—or too little—of these regulators, leading to irregular growth responses.

One common symptom of this imbalance is stem elongation, where the stem continues to grow after harvest.

### Which flowers are affected?

Tulips are the most well-known example. Depending on the cultivar, tulips can grow up to 10 cm after cutting, during transport and while in the vase. Gerberas, anemones, and antirrhinums may also continue to grow once they are cut and placed in water.

For florists and consumers, there is very little that can be done to stop this natural process. However, growers can take preventive action earlier in the supply chain.

Most tulips continue elongating after harvest, which can create challenges in mixed bouquets. After a few days, tulips may rise above the rest of the arrangement, disrupting the intended design.

Cut flower food—especially bulb flower food—can further stimulate this growth. While flower food is essential for hydration and vase life, it can also enhance stem elongation in these sensitive varieties.

## POST-HARVEST TREATMENT AT THE GROWER LEVEL

Stem elongation in tulips can only be prevented through post-harvest treatment by the grower. Chrysal offers a dedicated solution for this purpose: Chrysal BVB Plus.

This post-harvest treatment:

- Helps prevent tulip stem elongation
- Enhances vase life
- Reduces the risk of leaf yellowing

By applying the right treatment early, growers can deliver more stable and predictable tulip quality to the market.

## ARRANGEMENT & DESIGN CONSIDERATIONS

Florists and consumers cannot fully control stem elongation once tulips, gerberas, or anemones are placed in a vase. However, elongation can be anticipated and managed through thoughtful design choices.

In some arrangements, allowing tulips or gerberas to rise slightly above the bouquet can create a dynamic and natural effect. When designing mixed bouquets, it is recommended to:

- Cut tulip, gerbera, or anemone stems slightly shorter than other flowers
- Inform customers that these flowers naturally continue to grow in the vase
- Explain that cut flower food for bulbs can stimulate elongation.

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# The role of bulb flower food in stem elongation

Bulb flowers such as tulips have very specific nutritional needs after harvest. Bulb flower food is designed to support hydration, energy supply, and overall flower quality—helping stems stay firm, colors vibrant, and vase life extended.

However, it's important to understand that bulb flower food can also stimulate stem elongation. This is a natural response, as the nutrients support continued metabolic activity and growth in bulb flowers that are already prone to elongation.

This does not mean bulb flower food should be avoided. On the contrary, proper feeding is essential for quality and longevity—but elongation should be anticipated and managed, especially in mixed bouquets.

## BULB T-BAGS

**Using bulb flower food T-bags helps ensure accurate dosing and consistent results for both florists and consumers. T-bags dissolve easily in the vase and provide the correct balance of nutrients without the risk of under- or overdosing.**

**Best use recommendations:**

- **Use bulb-specific flower food or T-bags for tulips and other bulb flowers**
- **Combine proper feeding with thoughtful stem length adjustments during design**
- **Communicate clearly to customers that continued stem growth is a natural characteristic of bulb flowers**

**When paired with the right post-harvest treatment at the grower level, bulb flower food and T-bags support healthy, controlled elongation, helping maintain flower quality throughout vase life.**

## Stem elongation at a Glance

### Problem

Certain cut flowers—especially tulips, gerberas, anemones, and antirrhinums—continue to grow after harvest due to a disrupted balance of plant growth regulators (PGRs). Bulb flower food can further stimulate this natural elongation, affecting bouquet balance over time.

### Solution

Stem elongation can only be prevented at the post-harvest stage. Growers can use Chrysal BVB Plus to help control tulip stem growth, improve vase life, and reduce leaf yellowing—resulting in more predictable performance downstream.

## BULB FLOWER FOOD

Bulb flower food is specially formulated to meet the post-harvest needs of bulb flowers such as tulips, irises, freesias, and gladioli. It supports hydration, energy supply, leaf quality, color development, and vase life. Because bulb flowers are naturally prone to continued growth after harvest, bulb flower food can stimulate stem elongation. This is a normal response and should be anticipated, particularly when bulb flowers are used in mixed bouquets.

### Best Practice

- Anticipate stem elongation when designing bouquets with bulb flowers
- Cut tulip, gerbera, and anemone stems slightly shorter than others
- Use bulb flower food or bulb T-bags for proper hydration and nutrition
- Inform customers that bulb flower food supports quality but may stimulate growth
- Rotate vases regularly to promote balanced growth toward light

Stem elongation is a natural characteristic of some very popular spring flowers. With the right treatment at the grower level and thoughtful design and communication at the florist level, it can be managed—or even used creatively.

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