



PROTOCOLS

Export mexican
flowers to USA

FloraLife

●●●●●●● Experts in Flower Care

WWW.FLORALIFE.MX

WATER QUALITY FOR POST-HARVEST USE OF CUT FLOWERS

It is recommended to do an analysis of water used in postharvest at least twice a year: In rainy season and in dry season.

There are both qualitative and quantitative tests that makes possible to analyze different elements in water such as: pH, total alkalinity, hardness, etc.

RESUMEN RANGOS DE CALIDAD DE AGUA PARA POSCOSECHA

Medida	ZONA							
	ALERTA	REVISION		ACEPTABLE	REVISION		ALERTA	
pH	1.99	2.00	2.99	3.00	5.00	5.01	6.00	6.01
C.E (ms)					1.00	1.10	1.60	1.61
EC µS					1,000	1,100	1,600	1,610
Alcalinidad		-	59	60	240	241	399	400
Dureza					80	100	120	121

1. PROTOCOL FOR FLOWER PRODUCING FARM.

01-01. Transportation and Reception of Product from the field to the packing Room:

1. Transport the flowers from the field or greenhouse to packaging in meshes or plastic boxes.
2. Wash and disinfect meshes and boxes before each use with Floralife® DCD® Cleaner (15ml/L of water) and never place them directly on the floor.
3. Keep the flowers in the greenhouse / field in the shade and clean water (free of residues of leaves, petals or pieces of stem) with a pretreatment, we can use Hydraflor 100 Floralife® powder at doses of 0.42 gr/L of water.
4. The minimum level of the solution should be 15 cms.
5. Do not use metal buckets for hydration. Wash and disinfect these before each use with Floralife® DCD Cleaner (15ml/L of water).
6. Change the water at least every third day.
7. Keep the pH of the solution in the range of 3.5 to 5.0, in case of using chlorine, which is in a range of 15 to 65 ppm of free chlorine, Floralife® PRG can be used at doses of 1 tablet for 4L of water.

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8. Use a fast and clean flower transport system from the greenhouse or field to the packing room and disinfect the transport using Floralife® DCD Cleaner (15ml/L of water). Protect flowers from direct sun, rain and wind.
9. Treat the rose with FloraLife® Shield Ultra (dose 1ml / L of water) against Botrytis before it enters to the pre-cooling chamber.

01-02. Handling in pre-cooling chambers.

10. Keep the doors of the reception chambers closed for as long as you are not getting in or taking out flower.
11. Keep cold traps (curtains) in good condition.
12. Keep the chamber clean and free of organic residues.
13. Disinfect the cold room using Floralife® DCD Cleaner (15ml/L of water) at least 1 time per month.
14. Optimum temperature of the chamber between 3 to 8C°.
15. Place the flower in buckets with hydrating solution we can use Hydraflor 100 Floralife powder® at doses of 0.42 gr / L of water, or liquid at doses of 5ml / L of water, maintaining a pH between 3.5 -5.0
16. If any chlorine is used in the solution such as Floralife® PRG, maintain between 15 to 65 ppm of free chlorine.
17. Maintain a level of bacteria between 0 and 2 according to the Petrifilm scale (Check this with your FloraLife assessor).
18. Keep the solution free of organic residues such as leaves, stems, petals, etc.
19. Do not use metal buckets for flower hydration.
20. Minimum level of the solution 15 cms or what is necessary for all flowers to take solution.
21. Change the minimum solution every third day.
22. Do not have flowers on the floor and / or without mesh or box.
23. Physically separate the flower by day of cutting, as well as identify it in some way. Use the first in-first out rule.
24. Wash and disinfect floors and buckets once a week using Floralife® DCD® Cleaner (at doses of 15ml / L of water) and Chlorine alternately.

01-03 Defoliated.

25. Do not take more than 25 stems to defoliate them in the machines.
26. To make the defoliation you should take the stems of the middle part to avoid mistreatment of the foliage.
27. Defoliate 15 to 25 cm from the lower part of the stem (15 cm for the short flowers, 20 cm for the medium flowers and 25 cm for the longer flowers approximately).

28. Tearing of the stems at the time of defoliation should be avoided, for which the speed of the machine, the defoliation time and the use of hard brushes should be regulated.
29. Avoid bending the stems on defoliation and do not stick the buttons to the body.
30. Constantly take out the leaves of the buckets (trash) before they fill up and keep the work area clean and tidy.
31. Disinfect the brushes of the defoliators daily using Floralife® DCD® Cleaner (at doses of 15ml / L of water)

01-04 Calibration.

32. Keep the machine table or fan clean. Wash and disinfect at least once a week with chlorine and Floralife® DCD® Cleaner (at doses of 15ml / L of water) alternately.
33. Place the flower to be calibrated on the table of the calibrator or fan maximum 150 stems (approximately three meshes) and always deposit the new mesh behind the flowers that remain to be calibrated to ensure the following criteria: first arrivals, first departures.
34. Take care not to mistreat the buttons and foliage when separating the stems to deposit them in the caliper.
35. Do not hit the buttons when depositing the stems in the compartments of the gauge.
36. Measure only one stem at a time.
37. Constantly accommodate the stems that fall crossed in the deposits of each measure in the calibrator.
38. Handle about 50 to 75 calibrated stems, a larger number would cause excessive mistreatment.
39. The length of the stem is measured from the base of the button to the base of the stem.

01-05 Classification and confection.

40. The manufacturer must know the cutting date of the flower that it is processing.
41. The manufacturer must select the quality of the stem adhering to the established parameters (annex 1).
42. Make each package or bouquet with the same cutting point.
43. Take the stems of the middle part to avoid mistreatment.
44. The stems that for some reason have been mixed and that do not correspond to the measure being processed should be separated.
45. When making packages, the longest stems should be placed on the upper floor of the package and the shortest on the lower floor.
46. Unpeel the flower removing a maximum of four petals, depending on the needs, being careful not to mistreat the button.
47. In the event that there are more than four mistreatment or spotted petals, the flower should be removed, although this forces to change the stem to a lower quality one.
48. Each batch of flower that arrives at the confection table should not take more than 15 minutes to be processed.

49. On each table there must be a bucket or basket to deposit the garbage, so that the work area is permanently clean and tidy.
50. Keep the work area clean and tidy during the working day and at the end of the shift the work area should be clean and tidy. Disinfect your work table periodically during the day and wash and disinfect your work table at least once a week with chlorine and Floralife® DCD® Cleaner (at doses of 15ml / L of water) alternately.
51. Mistreated leaves and petals should be removed.
52. In the case of rose bouquets that carry a filler of another species, this must be of first quality and must protrude above the rose buttons approximately 1 cm and must not exceed the level of the bag (cone).
53. In Bouquets, tie the stems with a #18 rubber, insert it into the stems and turn it 2 turns in a spiral shape in a space of approximately 5 cm and 2 to 4 cm above the base of the stems.
54. Constantly check that the packaging process does not exceed more than 1 hour.

01-06 Clipping.

55. Take the package from the bottom of the wrapper carefully to not to mistreat the foliage.
56. Before trimming the package, you must be sure that the measurement is taken from the base of the button to the base of the package.
57. Trimming should be done in one fell swoop with the guillotine.
58. Continuously sharpen the knife of the guillotine, at least once a week.
59. You should always have a bucket for the garbage, which must be taken out before it is filled.
60. Guillotines should be washed and disinfected with Floralife® DCD Cleaner (at a dose of 15ml/L of water) every day at the start of the shift by the cutter responsible and record the activity in a format.
61. Constantly during the day the guillotine should be disinfected.
62. Do not tolerate short stems.

01-07 Placement of cone and Flower Food.

63. Before placing the cellophane, place the corresponding barcode label in the correct place according to the customer's specifications. Recommended: back of the cellophane, in the upper left corner, 1cm below the top edge of the bag and 2 cm from the corner approximately.
64. For Bouquets of 1 stem, the barcode label should be placed in the center and approximately 12 cm below the top edge of the bag.
65. Check that it is the correct label according to the order and type of Bouquet.
66. Place the correct measurement of the cellophane according to the number of stems of the bouquet or the specifications of the order.
67. Place the cellophane 3 cm above the tips of the buttons approximately.

- 68. Place the Floralife® Clear 300 or Express clear 300 floral food sachet for 0.5 or 1L according to the customer's requirement.
- 69. Place floral food sachet in the front of the bouquet, at the base and inside the cellophane, holding it with a rubber of #10 giving two turns or rubber of #18 making the knot on the back.
- 70. Avoid foliage in the mooring area of both the stems and the preservative.
- 71. The Floralife® floral food sachet should be placed front and straight.

01-08 Assembly of Orders and Packaging.

- 72. Collect the concentrate of orders (color balance)
- 73. Based on orders per customer, you must start assembling orders, These must indicate the percentage of red and colors or color balance.
- 74. For packaging in water use only proconas or clean buckets for packaging.
- 75. Use the correct amount of water according to the size of Floralife® Express clear 200 Ez Dose® sachet for 1.5 or 3 liters of water. Floralife® Express Clear 200 can also be used at doses of 10ml/L of water, if a dispenser is used it should be calibrated to 1%
- 76. Place the bouquets in the buckets being careful not to mistreat the buttons, take them from the middle of the stem.
- 77. Make sure that all the bouquets reach the bottom and that they are taking solution.
- 78. Label the proconas or aquabox correctly according to customer specifications or in the upper right corner of the collar or box approximately 5 cm from the upper edge, on the narrow side opposite to the union of the collar or cardboard.

01-09 Transport to Finished Goods Chamber.

- 79. Identify that the platform has been completed and that the proconas or AquaBox have their labels that indicate their destination.
- 80. Transport the pallet with the help of a skid to the finished goods chamber, taking care not to hit another pallet or any other object.
- 81. Locate the area where the platform should be placed and carefully take it down.

01-10 Handling in Finished Goods Chamber.

- 82. Keep the doors of the cameras closed during all the time that product is not being puting in or out.
- 83. Keep cold traps (curtains) in good condition
- 84. Keep the chamber clean and free of organic residues.
- 85. Optimum chamber temperature of finished product between 1 to 3C°.
- 86. Place the flower in buckets with Floralife® Express clear 200 Ez Dose® hydrating solution for 1.5 or 3 liters of water. Floralife® Express Clear 200 can also be used at doses of

10ml/L of water, if a dispenser is used it should be calibrated to 1%, maintaining a pH between 3.5 -5.0

87. Maintain a level of bacteria between 0 and 2 according to the Petrifilm scale.
88. Keep the solution free of organic residues such as leaves, stems, petals, etc.
89. Do not use metal buckets for flower hydration.
90. Minimum level of the solution 5 cms or what is necessary for all flowers to take solution.
91. Have no flower on the floor.
92. Physically separate the flower by day of cutting, as well as identify it in some way.
93. Wash and disinfect floors and buckets once a week using Floralife® DCD® Cleaner (at doses of 15ml / L of water) alternately and Chlorine alternately.
94. For dry packaging, hydrate at least 4 hours at room temperature or 12 hours in a cold room before being packed.
95. Have a control of first in, first out
96. Identify cutting dates on the flowers
97. Do not pack product if it does not have the minimum hydration time and if it has not reached the appropriate temperature (1 to 3C°).

01-12 Shipment of product to Shipment Center.

98. Use only refrigerated transport.
99. Correct temperature 1 to 3 oC.
100. Pre-cool the thermos before starting to charge so that at the beginning of the load it is in the correct range.
101. Keep the box at the recommended temperature throughout the journey. It is recommended to use a temperature recorder to keep a history of the entire journey.
102. Check that the container is clean and disinfected with Floralife® DCD Cleaner (at a dose of 15ml/L of water).
103. To load and unload, attach the trailer box to the door pads of the loading and unloading ramps to avoid cold air leaks.

2. PROTOCOL FOR SHIPMENT CENTER.

02-01 Inspection on arrival:

1. Calibrate all instruments used
2. Condition of the box – check if you notice excessive humidity present in the packaging and sleeve(s).
3. Temperature of the flower food solution (water in the buckets) in the water packaging. (Optimal 1- 4 +/- 1 or C)
4. Temperature of dry packing boxes. (Optimal 1- 4 +/- 1 or C)

5. Is there enough flower food solution in the buckets (10 cm)?
6. Check the proper UPC and its placement.
7. Check the proper mixture of the flower and cutting stage against the menu requested in PO #
8. Review the trip temperature recorder, log, and discrepancy report
9. Move product to the place for flowers / Position in the cooler. The flowers should not be out of the cold room.
10. Sufficient solution in packaging
11. Check bacteria level in the bucket solution (should not exceed 3M petrifilm level 2) take random control - 3 buckets per shipment.

02-02 Facilities:

12. The location of the floral area should be refrigerated in the range of 1-3 oC
13. Relative humidity should be 70-85%
14. Ethylene below 100 ppb (Parts per billion)
15. Do not store together with fruits and vegetables (ethylene). Insulating the flowers from the fruit helps not to receive ethylene damage.
16. Have an exclusive cooling chamber for cut flowers, if possible,
17. Date codes in all boxes so that they have a system of use First Entries First Exits.
18. Do not store flowers within 5 meters of doors that will be opened and closed frequently.
19. Map the temperature of the refrigerator and avoid storing flowers where the temperature of the refrigerator is too hot or too cold.
20. Have an external audit on the facilities every 6 months (Floralife, can provide this service as part of the program).
21. Clean surfaces
22. Clean air cooler
23. There can be no garbage on the floor
24. Measure ethylene levels 2 times per year (Floralife can provide this service as part of our program)
25. Do not put tropical (for example, orchids, gardenias, ginger, heliconia, paradise bird, etc.) cut and potted plants in cold refrigerator, dedicate a special refrigerator (13-16 oC) in your premises for these flowers.
26. Avoid sending flowers cut with ethylene-producing plants
27. If the solution evaporates, refill with floral solution to keep them permanently hydrated.
28. Check the temperature of the flower and solution to make sure it is being kept at the recommended 1-3oC
29. Place a bucket of water in the refrigerator near floral rotation, this is an ideal way to measure the temperature at that exact location, with the use of a probe thermometer.

02-03 Transport Load:

30. Use only refrigerated transport.
31. Ideal temperature 1 to 3 oC.
32. Pre-cool the thermos before starting to charge so that at the beginning of the load it is in the correct range.
33. Check that the container is clean and disinfected with Floralive® DCD Cleaner (at a dose of 15ml/L of water).
34. To load and unload, attach the trailer box to the door pads of the loading and unloading ramps to avoid cold air leaks.
35. Do not obstruct the air tunnel with the load
36. Do not load product that has not been pre-cooled to the right temperature (1 to 3oC)
37. Use only pallets treated and certified according to current legislation.
38. Stowage the product boxes in such a way that they allow adequate ventilation (do not obstruct ventilations of the boxes, proconas or aquabox)
39. Embarrass the pallets trying not to obstruct the ventilations of the boxes, proconas or aquabox
40. Place thermo-recorders (recommended 3 per container), one at the bottom of the box, another in the middle and a third near the door.
41. Before closing the container, place a Floralive® EthylBlock truck kit (contact your Floralive advisor or follow instructions for proper application). It is necessary to have at least 4 hrs without opening the container for EthylBlock to take effect

02-04 Ground Transportation:

42. Keep the box at the recommended temperature throughout the journey. It is recommended to use a temperature recorder to keep a history of the entire journey.
43. Use the cooler in recircular mode
44. Keep the boxes closed as long as possible.

3. PROTOCOL FOR DELIVERY TO CUSTOMER.

1. For flowers that are kept in water make sure to provide enough water and food for fresh flowers (1 sachet of Clear 200 Ez Dose® Express 1.5 or 3 liters of water), or Floralive express clear 200 at doses of 10ml / L) in the containers and that they are free of residues.
2. For dry flowers-deposit these in water properly treated with fresh flower food as soon as possible (1 sachet of 15 grams Clear 200 Ez Dose® Express per 3 liters of water, 1 sachet of 7.5gr for each 1.5L of water, or Floralive express clear 200 at doses of 10ml / L.

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3. Allow 1-2 hours of "absorption time" to give the flowers time to hydrate and be ready to perfect for their sale.
4. Inspect the flowers upon arrival
5. Flowers should be kept refrigerated with a temperature between 1° C - 3° C (34° F - 38° F).
6. Remove any petals in poor condition (leaves that have been damaged during shipping).
7. Make sure all containers have been cleaned with disinfected (Floralife® D.C.D. Cleaner).
8. Mix the appropriate amount of Floralife® fresh flower food and fresh water following the instructions (see points 1 and 2).
9. Inspect containers daily to make sure you have enough solution and clean up any debris.
10. Check periodically during the day that all the flowers are taking solution, as some customers could have left them poorly arranged.
11. Properly follow the principle of FIRST IN-FIRST OUTS when rotating flowers, those arriving and those leaving the supermarket.
12. Check the refrigeration temperature daily. Remember, flowers last longer if they are at a temperature of 1° C - 3° C (34° F - 38° F). You can use a temperature logger control.
13. The flowers should not be stored next to the fruit (it contains a lot of Ethylene). The preferable refrigerator would be the one used to store dairy products.