

HORTICULTURE



Recommendation for use of TwinN for horticulture.

TwinN is used on a wide variety of horticultural crops and has enabled the replacement of either all, or a very significant proportion of, the nitrogen fertiliser requirements in these crops. Please refer to TwinN mode of action for information on how TwinN acts to increase yields and efficiency of nutrient uptake.

TwinN will be able to produce best results if growers apply normal levels of non-nitrogen nutrients and follow best practice in looking after the general health of the soil. Reduced application of nitrogen fertilisers and annual application of mulches to increase soil carbon content are first steps to good soil health.

TwinN is currently used in a wide variety of vegetable crops including potato, carrot, onion, celery, cabbage, broccoli, lettuce, pepper, pumpkin, tomato, watermelon and others. It is also used in vine crops such as grapes and in bananas.

General Recommendations

Apply the normal rates of P, K and other nutrients. If these nutrients are limiting then the crop will be unable to respond to TwinN application. The amount of nitrogen fertiliser co-applied with TwinN for optimum results will vary. A recommended starting point is to apply 50% of the normal rate of N fertiliser, plus TwinN, applied once or twice. Apply the N at the same stages of the crop cycle as usual. Many producers also test, in addition, a greater reduction down to 25% of normal N. Depending on soil fertility and crop needs most systems will produce long-term sustainable high yields at between 25 – 50% of normal N inputs. **Start at 50% and work downwards.** Some producers use TwinN and no chemical nitrogen on crops in organic farming systems and obtain excellent yields.

Horticultural Crops

The nutritional requirements for horticultural crops are very varied. If your crop is not in the TwinN Crop Application table below, or if you have any questions on how to get the best results from TwinN in your crop system, contact your nearest distributor.

TWINN CROP APPLICATION TABLE

Crop	Application Timing
Apple	Just after flowering; Half way through fruit development; After harvest or prior to bud break to set up next crop
Bean	4-8 leaf stage; Early flowering
Berry	4-6 leaf stage ; 2 months later; 2 months later
Carrot	Post emergence; 6 weeks later
Cotton	4-6 leaf stage; before flowering, during boll formation
Cucurbit	4-6 leaf stage; 2 months later
Crucifera	4-6 leaf stage; 2 month later



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TWINN CROP APPLICATION TABLE cont'd

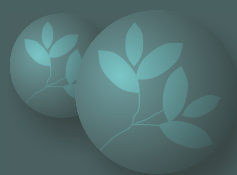
Cherry	Just after flowering; Half way through fruit development; After harvest or prior to bud break to set up next crop
Grapes	Just after flowering; Half way through fruit development; After harvest or prior to bud break to set up next crop
Ground nut	4-6 leaf stage; During early flowering
Kiwi fruit	Just after flowering; Half way through fruit development; After harvest or prior to bud break to set up next crop
Lettuce	4-6 leaf stage; 6 weeks later
Maize	5 -15cm shoot height; Immediately before flowering
Nectarine	Just after flowering; Half way through fruit development; After harvest or prior to bud break to set up next crop
Onion	4-6 leaf stage; 6 weeks later
Ornamental	As often as needed
Olive	Just after flowering; Half way through fruit development; After harvest or prior to early new season growth to set up next crop
Peach	Just after flowering; Half way through fruit development; After harvest or prior to bud break to set up next crop
Pear	Just after flowering; Half way through fruit development; After harvest or prior to bud break to set up next crop
Pepper	4-6 leaf stage; 2 months later;
Potato	On emergence; At tuber initiation
Pumpkin	4-6 leaf stage; 2 months later
Seedling	Full emergence
Strawberry	4-6 leaf stage; 2 months later
Sugar cane	15-30cm high; Prior to crop becoming too tall to boom spray, At ratoon
Sunflower	15-20cm high; Before flowering
Tomato	4-6 leaf stage; 2 months later
Tobacco	4-6 leaf stage; 2 months later
Watermelon	4-6 leaf stage; 2 months later
Wheat	4-5 leaf stage; Late tillering or before flowering in irrigated areas or for heavy crops

Information for applying TwinN

Download the TwinN Crop Application Instructions and follow them carefully.

- > TwinN does not make P and K or other elements. These should be added according to your normal practice.
- > Application methods should deliver the TwinN microbes onto foliage that is moist for a minimum of 3-4 hrs, or into moist soil, to enable them to establish and multiply. Once established they are resilient to normal crop conditions.
- > Rehydrate TwinN strictly according to instructions.
- > **Apply TwinN strictly according to the Application Guidelines in the package. Failure to apply the product correctly will produce poor results.**

Avoid application under dry conditions.



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If using chlorinated water you must de-chlorinate it. See TwinN Crop Application Instructions. Do not mix TwinN with non-compatible chemicals. For a list of compatible and non-compatible chemicals visit Compatibility Table.

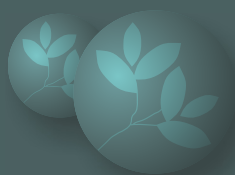
Foliar Application

Add the rehydrated TwinN to the mixing tank using at least 100 L water per ha. Apply by aerial, boom spray, or backpack. Use coarse nozzles. For row crops direct nozzles over the row (banding).

Irrigation

TwinN can be applied very easily and successfully through any irrigation system including centre pivot, drip, fertigation and any other. Application directly to the soil is fully effective.

Contact your TwinN Distributor for advice on how to maximize the convenience and efficacy of TwinN in your cropping system.



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