



Walnuts NZ Co-operative Ltd

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Preparation for harvest 2017 Information for walnut growers

This newsletter is to inform you of decisions that have been made so far regarding arrangements for supplying walnuts to the factory in 2017. We hope it will help you with your planning. We aim to send out another newsletter closer to harvest time with more details.

1. Important changes from previous years

- The co-operative has negotiated a walnut drying price with Southern Seed Technology (SST) near Irwell, Canterbury. We are not operating the drying service ourselves but are just facilitating the arrangement between the grower and SST. For ease of administration (of both SST and growers), the co-op will pay SST in bulk for all walnut drying then deduct the relevant amount from the final payout of growers who choose to dry their walnuts at SST. The price for drying (with transport to factory and storage included) will be not more than 55c per kg of wet walnuts, but we are still finalising details. See also notes below about storage. Alternatively you can dry your own walnuts.
- We are changing the method of measuring the moisture content of walnuts. In the past we have measured the moisture content of the kernel only, but from 2017 onward we will be measuring the whole nut, i.e. both shell and kernel broken up together. In addition to the method of measurement, we will be requiring walnuts to be dried down to a lower moisture content than has been the case in the past. See further details in this newsletter.
- Storage space will be limited at the factory because our rising crop volume means that more space is now taken up with processing equipment. The factory will need to hire off-site storage to supplement its own. At the same time, to meet our HACCP food control plan and to ensure quality walnuts, we are placing a greater emphasis on the suitability of storage facilities this year. This means we are in a transitional situation with regard to storage.
- To safeguard walnut quality, all growers should ensure their nuts are either sent in to the factory or placed in an approved storage facility as early as possible after drying. If you supply over 1 tonne and believe you have suitable facilities to store your own walnuts (and perhaps those of other growers) we are happy to discuss this on a case-by-case basis. We may need to inspect and approve your facilities. We would call these walnuts in for delivery when we are ready to process them. For those drying at SST and storing their own walnuts at an approved facility, the storage and transport components of the drying cost would be subtracted from the total. Our biggest growers need to store their own walnuts in an approved facility as we do not have space in the factory storage for these large volumes immediately after harvest. For smaller growers drying their own walnuts, please phone in advance to arrange for your walnut delivery to the factory. We may charge a small storage fee to assist with off-site storage.
- You will not need to size-sort your walnuts on-farm as we are purchasing size-sorting machinery for the

factory. Proportions of your crop in different size categories will still be considered in determining your payout, but you do not need to separate these size categories yourself.

- We are currently reviewing the grading system and will send out the new grade definitions to you in a future newsletter. For now, however, in this newsletter, we have listed the factors we will consider in the grading system.
- In future, we will need to view a copy of your orchard spray diary as part of our food safety plan. At the present time, we appreciate that some growers may not keep such records, so we don't expect you to have these available this year. However, we aim to work with you on developing a standard recording template in the coming year. This year, as usual, you will just be required to record on your consignment note the names of the sprays used on your orchard. For this year, this will be your formal record/declaration.
- As a co-operative, we are here to help our growers. If you're unsure of any of these arrangements, please free to contact us at the office.

2. Grades and sizing

We are currently reviewing our grading system and will get the new grade definitions out to you as soon as we can. As in previous years, however, there will be higher prices for: (a) certified organic compared to conventional; (b) larger walnuts compared to smaller; (c) walnuts separated into certain cultivar lines compared to mixed cultivar; (d) walnuts that are clean and light-coloured compared to discoloured walnuts.

You need not size-sort your walnuts as the factory is purchasing sizing machinery. Your walnuts can come in to the factory with all sizes mixed into your bags or bins. However, your pay-out will take account of the proportion of walnuts that fall into each size grade (in addition to the other factors above). Regarding (c) above, we are currently deciding which cultivars can be mixed together and which should be separated (to attract the higher price). This separation has to do with shell thickness, shell seal and other factors, which can impact on the efficiency of our cracking process at the factory. However, we appreciate the extra labour it can take on the orchard to keep cultivars separate and will try to make this as practical as possible for growers.

- Nuts that have been left wet for too long with deteriorating kernel, discoloured and mouldy nuts will be downgraded or even rejected;
- The most helpful thing that you the Grower can do for yourself, the industry and the Co-operative is to supply high quality clean walnuts

3. Drying your walnuts

This year, the factory is changing the method of measuring the moisture content of walnuts. In the past we have measured the moisture content of the kernel only, but from 2017 onward we will be measuring the moisture content of the whole nut, i.e. both shell and kernel broken up together. This is the usual way it is done in USA and Europe so it will mean our measurements are consistent with international standards.

In addition to the method of measurement, we will be requiring walnuts to be dried down to a lower moisture content than has been the case in the past (i.e. they must be drier). This is to ensure that our walnuts do not go mouldy in storage and to minimise the risk of storage moth.

In 2017, your walnuts must be dried to 8% moisture content *of the whole nut*, i.e. the shell, kernel and partition broken up together should have a combined moisture content of not more than 8% moisture (by weight). Note that this is equivalent to a kernel-only moisture content of approximately 4% (which is drier than the 6% kernel moisture limit we have used in the past). The 8% (whole nut) moisture content has been

the standard for storage in the USA, EU¹ and Chile for a long time, and storage spoilage is very rare at this level.

The 8% whole-nut moisture content must be measured by an approved meter (see information below). For this measurement, you will be crushing the whole walnuts and measuring the moisture content of the kernel, shell and partition mixed up together. If you are using drying bins with air blowing up from underneath, remember that the nuts on the top of the bin will be the wettest, so if a sample from the top has less than 8% moisture, then the rest of the bin should also be under 8% moisture. A useful rule-of-thumb for checking your walnuts while they are drying is that if the partition is not brittle (snaps when you break it) then the walnuts will not be dry. However, you should use a meter for your final check before taking the walnuts off the dryer.

We will provide further information in our next newsletter for those who already have moisture meters, covering: (a) a new calibration for your meter suitable for whole walnuts – FF Instrumentation has advised that existing meters currently calibrated for kernel only will need to be re-calibrated for testing of whole nuts – and (b) about how you prepare your whole-nut sample for measurement.

The harvesting period extends over approximately six weeks, and walnuts should not be kept in a wet or semi-dry state otherwise they can go mouldy. Once the walnuts have been picked up, we recommend they are dried promptly.

How to dry your walnuts

You are welcome to take your walnuts to SST for drying under the pricing arrangement that the co-operative has negotiated (we will provide details of SST's location and hours in our next newsletter). You would need to deliver the clean walnuts there yourself. SST will invoice the co-operative in bulk for all walnut drying they undertake and we will pass the charge on to relevant growers by deducting it from your final payout. We are still finalising details but the price will be not more than 55c per kg (wet weight) including transport of the walnuts to the factory and storage.

Growers with a small quantity of crop can dry their walnuts spread out on racks. Once you have more than about 500 kg to 1 tonne of walnuts you may find it easier to build a small single-bin-dryer on your property – these have a mesh floor with a centrifugal carpet-drying fan (available from selected hardware stores) blowing air in the bottom – contact Nelson Hubber (03-347-4040; 027-272-9738) for assistance.

Once you are getting up to the 5 tonne mark, you may consider something like a pot-dryer/bin-dryer with multiple bins stacked over air-ducting, with a fan and heater to blow warm air up through the bins. Talk to Frank Brenmuhl (027-2244-009) or Colin Prebble (021-325-900) to learn about this method. For larger-scale equipment talk to Andrew Horsbrugh (027-436-1914).

Moisture meters



Walnuts NZ Co-op Ltd has a Wile 55 moisture meter for measuring the moisture of walnuts. Moisture measuring is available to all suppliers wishing to send walnuts in to the factory. A good double-handful of a representative sample of walnuts is required for this testing. Alternatively, growers who own meters include Aylesbury Walnuts (Frank Brenmuhl, 027-2244-009), Tunlaw Farm (Andrew Horsbrugh, 027-436-1914), and Colin Prebble (021-325-900), Nelson Hubber (03-347-4040; 027-272-9738) and you are welcome to contact them to make arrangements for having a sample of your walnuts tested.

If you'd like to buy a meter we currently recommend the Wile55 meter with walnut (whole nut) calibration

¹ We are aware that the 'fresh nut' trade in Europe allows for up to 12% whole-nut moisture content (equivalent to a kernel-only moisture content of approximately 5.5%). However, these walnuts are usually not stored for very long – they are a seasonal product and typically consumed within a few months – whereas we need to plan for longer-term storage.

from FF Instrumentation Ltd, 48 Hayton Road, Sockburn, Christchurch. Phone 03-962-2960, www.ffinstrumentation.co.nz

The price is \$850.00 + GST and if you quote the following code this year you will get a 10% discount: **WNZ2017**

4. Storage and consigning your walnuts to the factory

All consignments of walnuts to the factory must be accompanied by a consignment note. We will provide this form in due course. If you are having your walnuts dried at SST or through another Grower, take the consignment note along with your wet walnuts, and they will pass a copy of this to the factory. As in previous years please mark each approved bag or bin with your own assessment of the quality category of the walnuts inside: ① (top quality), ② (standard quality), ③ (low quality), and record this assessment on your consignment note.

Smaller growers having their crop dried at SST will have their walnuts transported from SST to the factory as part of the arrangement. If you are drying your own walnuts please deliver them, once dry, to the factory on weekday mornings. This must be by prior arrangement – phone the office 03-347-8103, or after hours contact Richard 027-366-9964. We cannot accept incoming walnuts without a staff member present as consignment notes **MUST** be checked in to meet our HACCP programme.

If you supply more than 1 tonne and wish to store your own walnuts (and perhaps those of other growers), and you believe you have storage facilities that would meet the requirements of our HACCP food control plan, we would assess these facilities on a case-by-case basis. Storage requirements include:

- Free of vermin
- Free of fuel, diesel, solvents etc., as these can taint the walnuts. For example, it is not acceptable to store the walnuts in a garage where there is also a car parked or storage of fuel.

NB. Shipping containers can provide suitable storage at reasonable cost.

If you store your own walnuts, the cost of transport and storage would be subtracted from the total drying cost (for those having their walnuts dried at SST). You would need to transport them to the factory yourself when the factory contacts you to ask for them to be delivered.

Grading at grower's approved storage facility (growers who store their walnuts at a location other than the factory):

- Sampling may take place at the grower's storage facility prior to delivery to the factory.
- Moisture content must meet approved level, and must be verified by the factory.
- We may undertake an audit of your storage facility.

In any case, your walnuts must be either delivered to our factory premises or in an approved storage facility by 30 September to receive the interim payment in October/November.

For those outside Canterbury, we may be able assist in coordinating transport arrangements between growers – contact the office (03-347-8103) if you would like to discuss this.

Please let us know at your earliest convenience whether you plan to supply walnuts to the factory in 2017 (particularly if you plan to store them elsewhere than the factory) and provide us with an estimate of your crop volume. Email: walnutsuppliers@crackernut.co.nz; Phone 03-347-8103.

5. Bags/bins for storing and transporting walnuts

Onion bags

Onion bags and labels will be available at the factory as usual. Do not use old sacks, used fertiliser bags, or similar, to put walnuts in – remember this is a food product we are handling! If we supply you with onion bags then you have an obligation to return them to us either full or empty after harvest.

Walnuts can be dried on a forced-air dryer in onion bag. If you are doing this (including if you take your walnuts to SST), we recommend that you don't fill the onion bags completely full. For proper drying, the bags should be quite loose and floppy so that they fill the gaps between themselves when they are put in the drying bins. *About 80% full is about right.*

If you are not using a forced-air dryer or similar, the walnuts must be dry before they go in the onion bags. Undried walnuts in an onion bag will not dry properly (even if you hang the bags up) and may go mouldy or dark-coloured.

Bulk handling, bins and storage

As our crop sizes increase, handling nuts in bulk will become the norm, so the Co-op has decided on a standard size of wooden bin that will fit into shipping containers efficiently. Shipping containers are easy to procure and are a popular rodent-proof 'storage shed'.

Walnut bins sized so that they fit into a 20-foot shipping container:

Small bin: 1.100m (Front) x 1.140m (Side) x 0.740m (Height)

*\$78.46 + GST ea. 30 bins per container (3 layers of 5 x 2), so \$2376.60 / container

Large Bin: 1.100m (Front) x 1.140m (Side) x 1.110m (Height)

*\$95.85 + GST ea. 20 bins per container (2 layers of 5 x 2), so \$1933.20 / container

*Prices for completed bins (ex yard) made in untreated timber from Mitchell Bros. Sawmillers in Darfield. Phone: 03-318-8414, ask for Tony.

Timber is 25mm thick and base is 25 +100 +25 = 150mm in height. Timber in contact with walnuts must be untreated, but you can have the base made in H3 (so it does not rot on wet ground) at additional cost. Using the larger bins gives you about 1.5 cubic-metres more storage per shipping container.

- Bins need to be branded with grower's name.
- Bins need to be marked with a tare weight when dry.
- Bins must have the dimensions above otherwise it will cause difficulties when we try to stack them with other bins in the factory or our off-site storage.

6. Other points relating to walnut quality

Looking after the quality of your walnuts on-farm

The quality of walnuts that are not looked after properly during harvest and storage may suffer, leading to the walnuts being rejected.

Rodent control is vital: It is essential that vermin are not brought into the factory in onion bags. This has happened in the past and it is not acceptable. If you are storing walnuts on-farm, make sure you have a pest-proof storage facility (such as a shipping container) and a good pest programme.

Solvents: Walnuts must be stored away from any solvent source such as petrol, diesel, glue or paint, as the fumes can very easily taint the walnut taste.

Drying: Dry your walnuts promptly once they have been harvested.

HACCP programme: Refer to Walnuts NZ Co-op's HACCP food control plan requirements which will be on our website soon.

Do you graze livestock in your orchard?

Sheep, cattle and other livestock MUST be removed from the orchard before 1 January (at the latest) to minimise contamination of the walnut crop. Ground where walnuts fall should be mowed at least twice to assist the removal of faecal matter etc.

Faecal matter arriving within a walnut shipment is a continuing issue and requires whole shipments to be rejected when faecal matter is detected. Refer to Walnuts NZ Co-op's HACCP food control plan requirements which will be on our website soon.

It is not acceptable to have livestock manure adhering to walnuts on the orchard floor. Even though you will be washing your walnuts, any manure washing around with the walnuts in the wash-water can potentially contaminate the shells with bacteria.

Spray use in the orchard

Walnuts NZ Co-op Ltd has an approved HACCP food control plan which will be on our website soon. Part of this involves knowledge of sprays used on the orchard. All chemicals used must be approved for food production, and the manufacturer's guidelines for usage must be followed. Information about chemicals allowed and not allowed in food production can be found at:

<http://www.foodsafety.govt.nz/elibrary/industry/register-list-mrl-agricultural-compounds.htm>
or phone MPI Food Safety 0800-008-333.

In future we will need to view a copy of your orchard spray diary as part of our food control plan. We appreciate that, at the present time, some growers may not keep such records, so we don't expect you to have these available this year. However, we aim to work with growers on developing a standard recording template for use in coming years.

Old walnuts

We accept "current season" walnuts up to 31st December only unless in approved storage or by prior arrangement. For this purpose, current season is Walnuts harvested from April to June in the current year.

NB. We do not accept out-of-season walnuts.

Useful contacts

The website of Walnuts NZ Co-operative Ltd, the co-operative of growers that owns the walnut processing business, is <https://walnutsnz.co.nz>

NZ Walnut Industry Group (NZWIG) is an active group supporting the developing walnut industry in New Zealand. The group provides information on site selection, growing and maintaining your orchard, and has an extensive walnut growers' manual. Field days and information evenings are organised for members and friends. www.walnuts.org.nz, Anna Brenmuhl: treasurer@walnuts.org.nz

For walnut inspiration and recipes, see <http://walnutsplease.nz>

7. Payments and share purchases

In general Walnuts NZ Co-op Ltd makes a down-payment of \$1/kg (+ GST if any) in October/November. This will be paid out on walnuts receipted and graded at our factory or in approved storage by 30 September. We aim to make the final payment in March (before the end of the financial year).

Growers will be informed in January/early February of the final grades and weights of their crop from the previous harvest.

If you are a shareholder and your crop exceeds the amount covered by your current share ownership, we will let you know how many new shares you need to buy to match your crop volume. You can make this share purchase in March with payment by offset against your final walnut payout.

If you are not currently a shareholder, you are welcome to join us. For information please contact Heather North, Email: secretary@walnutsnz.co.nz, or Phone 03-325-3381.

Note that if you supply more than 2 tonnes (2000 kg) to the factory in a year, Walnuts NZ Co-op Ltd requires you to be a shareholder in order to supply (unless approved otherwise by the board). We would let you know in January/early February if your crop volume moves into this range.

We are currently reviewing our grade definitions and expected prices, and we will send out a further newsletter once these decisions have been made. Those who are not shareholders will be paid 15% less than the rates for shareholders.