

Harvesting Hazelnuts

Lots to think about



Harvesting Hazelnuts

Progression

- First nuts appear at about the third year after planting, depending on how old your trees were when planted.
- The volume of nuts will gradually grow to a maximum of 10 to 20 lb. per tree depending on variety. (1 ton / A)
- Years 3 to 4 usually can be handled manually with hand held tools, depending on the size of your orchard.
- By year 5 through 6 or so you will need to employ larger machines to move the nuts around to collection points or a vacuum / mechanical pick up of sorts
- After this time, if everything is working right you will need to employ larger scale mechanical machines to collect the crop

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Orchard preparation

- Your orchard must be prepared in advance of the harvest.
- The type and scale of prep work will depend on the method of harvest and machinery employed.
- It is always best to control all weeds and grasses early in the year before they get hardened stalks that can deflect smaller tooling and nut flow at harvest.
- It is best to maintain a 1 m. wide clean strip of ground along the tree line each side of the tree, year round, for **improved growth,** **increased moisture availability** and **clear movement of nuts out and away from the tree stems at harvest time.**



Hazelnut Harvesting

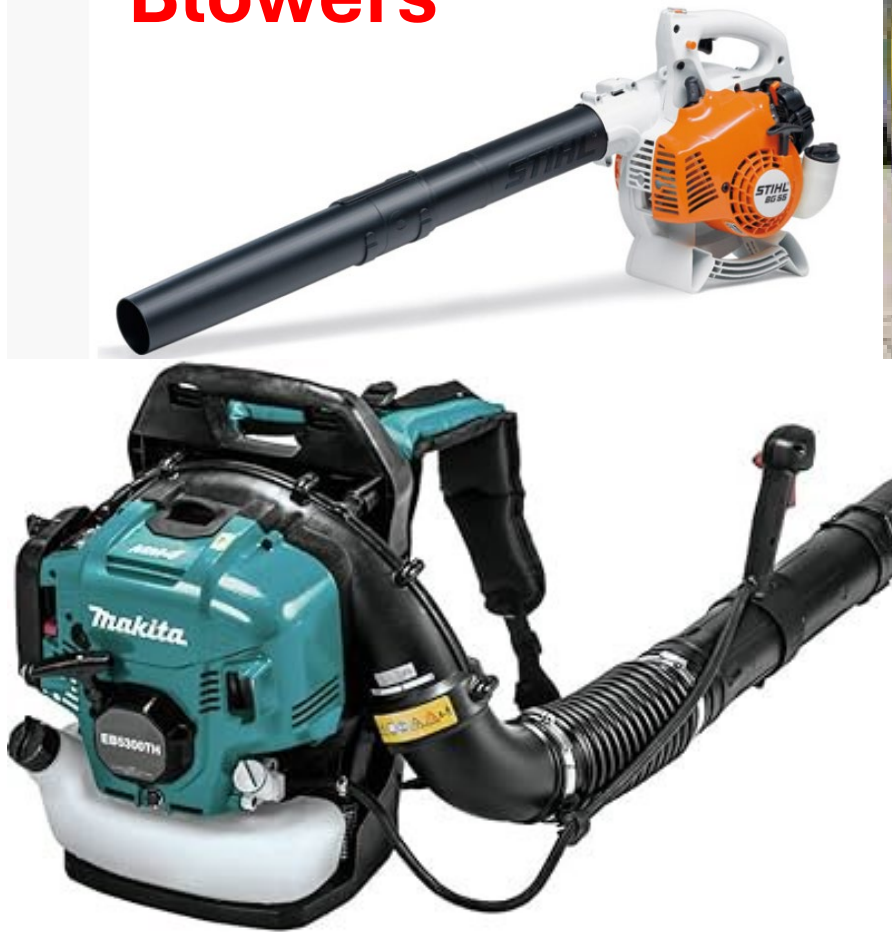
Orchard preparation (cont'd)

- Ensure there is no debris in the path of the pickup machines
- Use an **orchard blower** to blow all the sticks, old nuts and debris out from under the trees.
- Flail the orchard floor to reduce the collected debris into fine particles. Leave the orchard floor as planar as possible to improve nut collection.
- Mow the grass in the middle of the rows for easier collection and after every collection run. Some growers in Oregon use a reduced Round up spray to temporarily stunt the grass's growth

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Orchard preparation (cont'd)

Blowers



3 pth Blowers



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Harvesting methods

- Hazelnuts are harvested many ways depending on the maturity of the orchard.
- Some of the hazelnuts grown in Türkiye (~60%) are still hand picked , the traditional way many off of hill sides.
- Almost all of the hazelnuts grown in the US , Italy, Chile and elsewhere are harvested using large scale expensive collection and pick-up machines

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Traditional Turkish way



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When to pick?

- All growers are overjoyed when the first hazelnuts start appearing on their newly planted orchards.
- They are quite anxious to collect their crop before anything else does.
- **How do you tell when the nuts are ready to pick?**
- **Once the nut rotates in the husk it is fully mature.** Leave it if it doesn't.
- Picking the nuts earlier can result in shriveled and shrunken nut meats.
- The nuts usually start dropping in a couple of weeks after they start spinning, once the husk dries out.
- The nuts on any tree will mature over a period of several weeks so it is always better to collect them off the ground where you know they are all ripe. You will need to do at least two collection passes

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Initial harvests

- In the first year or two, depending on the size of your orchard, you may want to hand harvest your crop.
- Hand held roller balls are one of the best ways to quickly collect the crop.
- Roll around manual pick machines can do a good job too as can small vacuum pick ups.
- These are fairly efficient and relatively inexpensive for the first few seasons
- Some growers with smaller orchards use nets or tarps to collect the nuts.

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Nut Weasel



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Harvesting methods

System	Capital Cost (\$NZ)	Productivity (ha/hour)*	Productivity (kg/hour)**
Manual	< \$200	up to 0.01	up to 15
Hand-propelled	\$800 to \$1,200		
Back-pack vacuum	< \$3,500	0.01 to 0.02	15 to 30
Medium-sized vacuum	\$3,500 to \$12,000	0.05 to 0.1	60 to 150
Large tractor-towed vacuum	\$15,000 to \$20,000	0.1 to 0.5	150 to 700
Medium-sized tractor-mounted mechanical	\$25,000 to \$35,000	0.2 to 0.4	300 to 600
Large self-propelled mechanical	> \$75,000	0.3 to 0.5	450 to 700

Consider adapting locally sourced equipment and adapting it for use in your orchard

Mount a Skid Steer/BobCat type quick attach system to your loader and have a 3 lever hydraulic system so you can even rent some tools

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Fig.



Fig. 5 - Cifarelli vacuum harvester on small trailer



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Larger vacuum nut pick ups



Harvesting Hazelnuts



Modified apple pick up machine

Les' hot rod

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Mid sized harvesters



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The big guns



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Eric's set up



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Nut Cleaners removes sticks and leaves from nuts

