

Mechanization in asparagus production

The path to efficiency

14 March 2023

Unleashing plant potential

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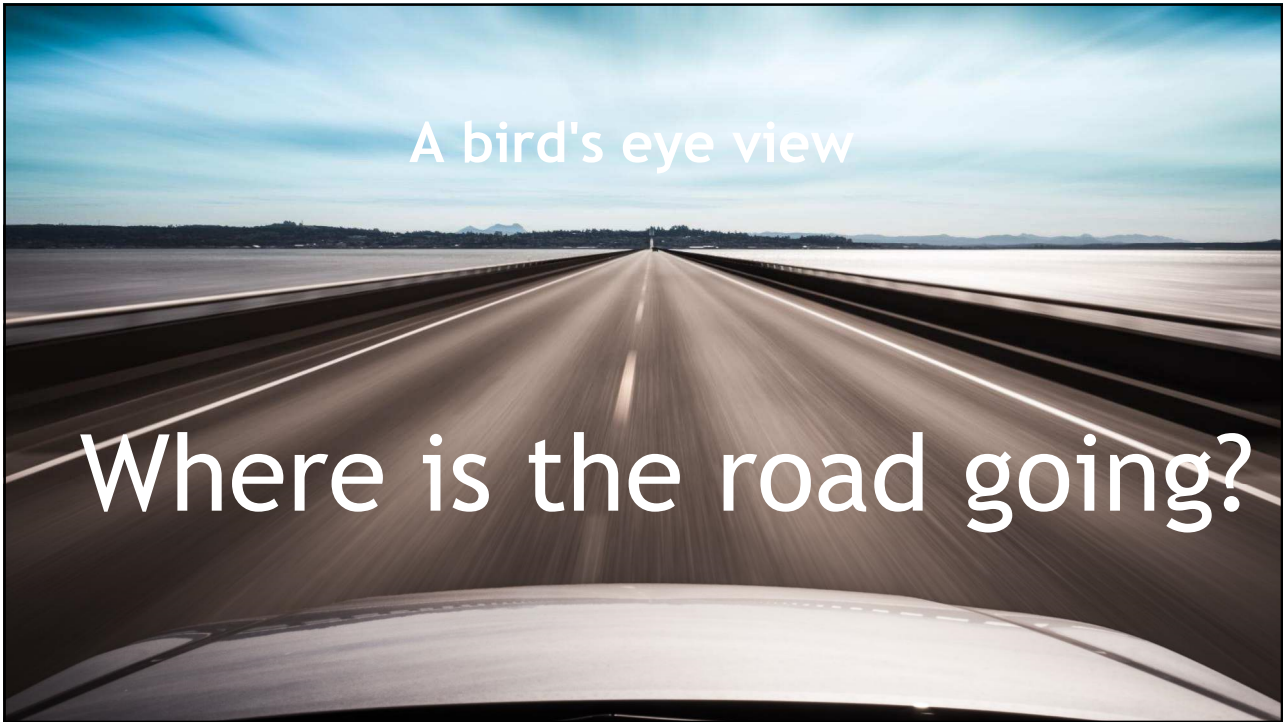
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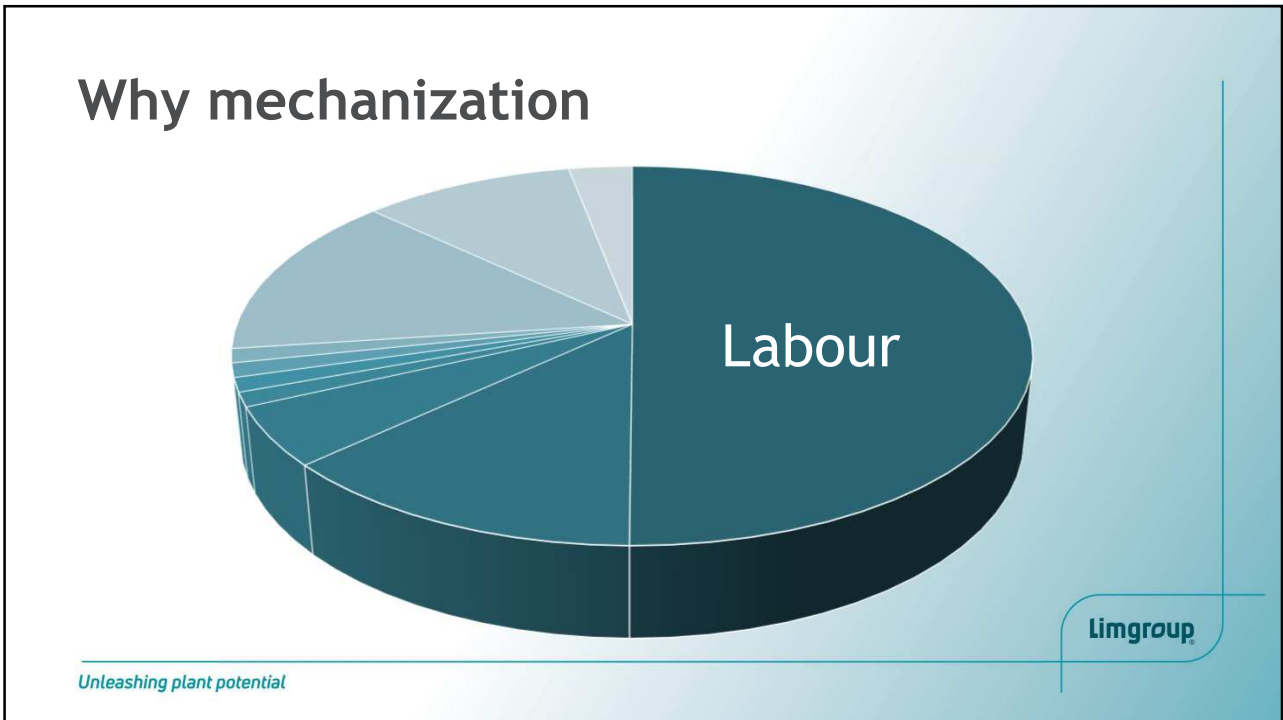
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Harvesting & Sorting



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Sorting and harvesting

Calculation example harvest

Harvest during the season 8000 kg/hectare

Harvesting capacity 16 kg/hour

$$8000 : 16 = 500 \text{ hours}$$

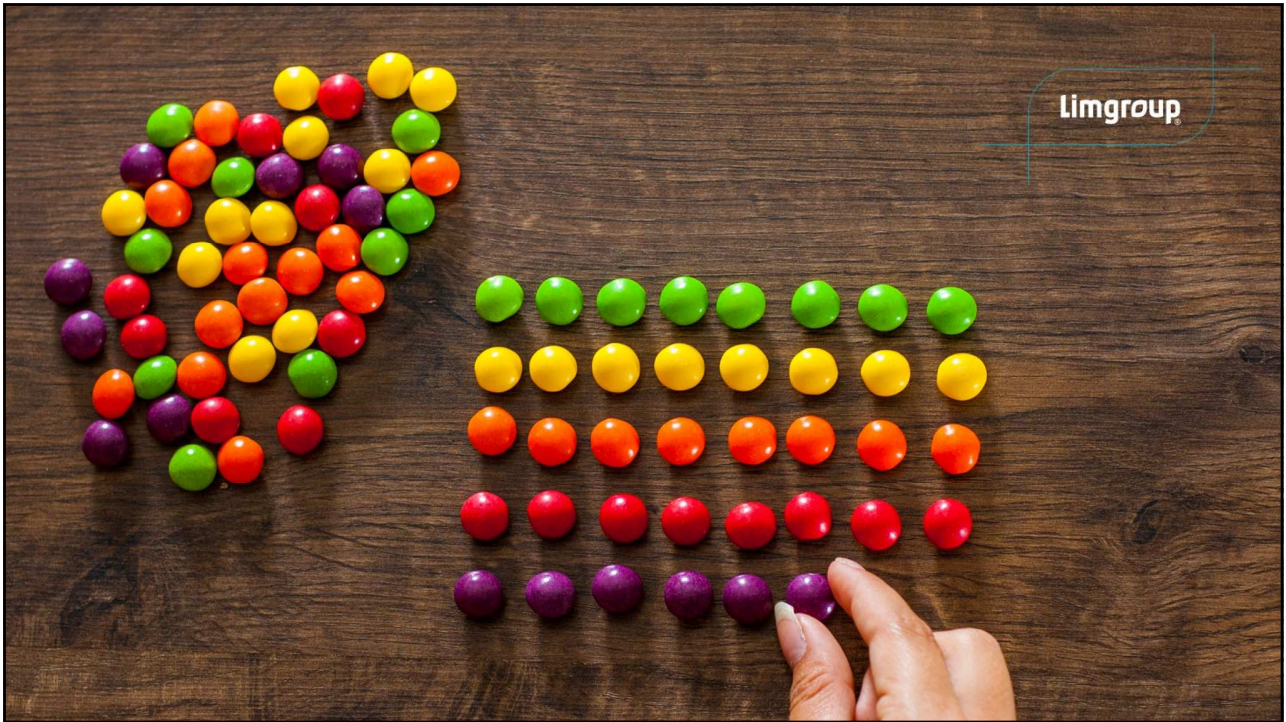
$$500 \times \text{€ } 14/\text{hour}$$

7000 €/ hectare harvest costs

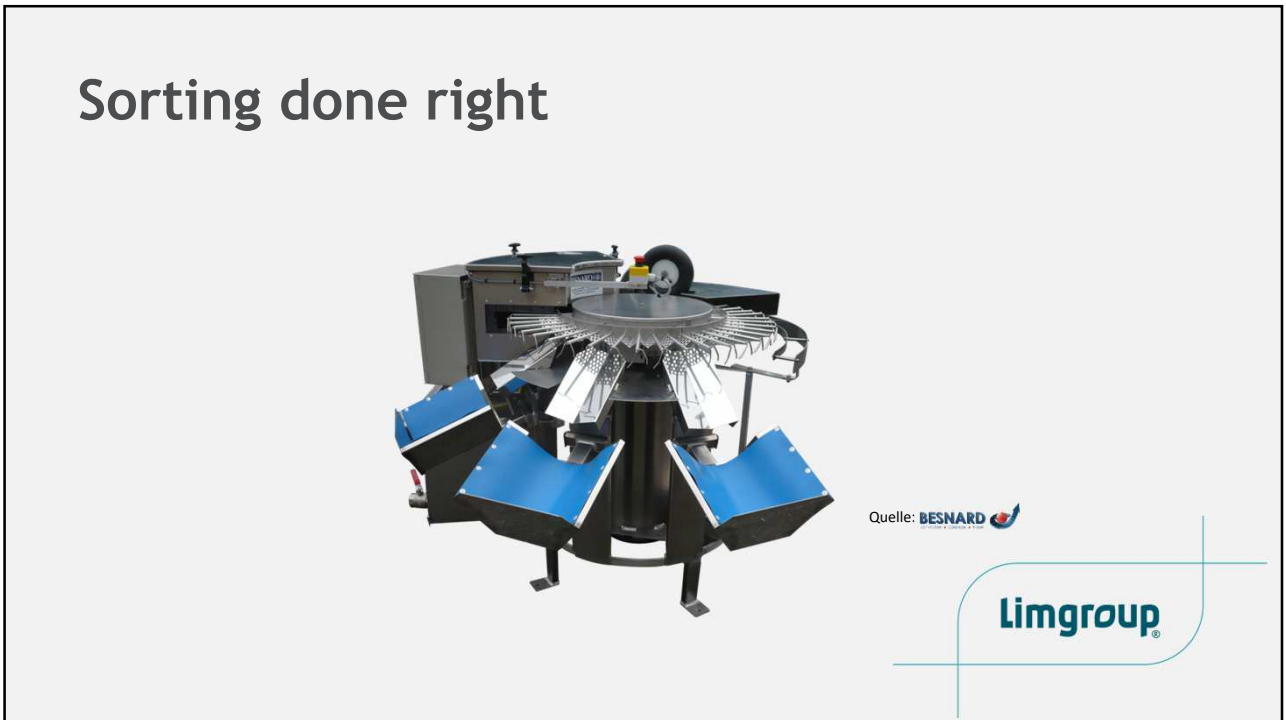
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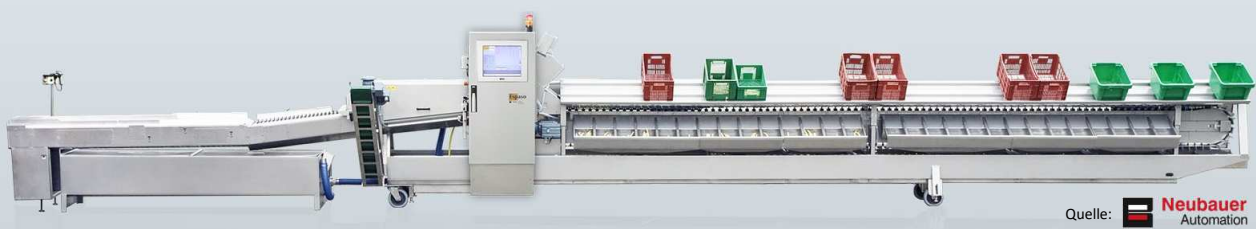


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Sorting done right



Quelle:  Neubauer Automation

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Sorting done right

Optical



Spear diameter
Head closure
Spear appearance
Visible anomaly
..... Etc.

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What distinguishes the sorting system

- It needs Personnel
- Sorted as set
- Measured in number of spears/hour

Natural product "asparagus" determines the course

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Traditional

Hand harvesting with basket

12 kg/h

7000 kg : 12 kg/h = 583 hours

583 x € 14 = € 8162

The harvesting process takes too long

- Quality loss
- Inefficient/Cost

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Mechanized

Hand harvesting in the combi machine

25 kg/h

7000 kg : 25 kg/h = 280 hours

280 x € 14 / st = € 3052

- Higher efficiency
- Less physical strain (job satisfaction)

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Quelle: Muddy Machines / Sprout



Quelle: AVL Motion

The step into the future

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Top-notch mechanization

- No harvesting personnel → machine operator
- 24/7 → more stable quality
- Possibly other quality characteristics of asparagus
- 2 big decisions are to be made

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Current status

- Capacity, not (yet) economical
- Reliability, final stage
- Many tried, there is nothing yet practicable
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A lot is also happening in cultivation

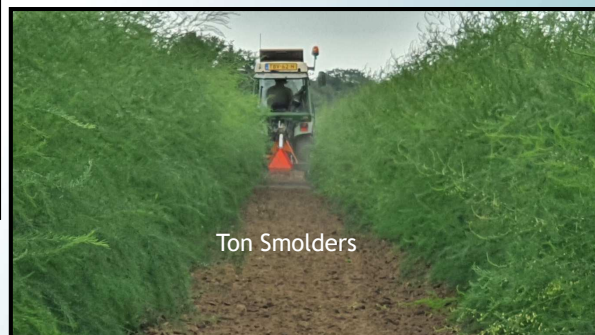


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New old weed control



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Strip Cultivation



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- Increasing biodiversity
- Storing water
- Erosion protection
- Less energy
- Increased spear quality
- Economy?

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Breeding

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Mechanization and market

Variety must fit the cultivation system and market

With mechanization, the required characteristics of a variety also change

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Cool white

Backlim
Frühlim
Gijnlim
Grolim
Herkolim
Maralim
Vitalim

Cool green

Aspalim
Gijnlim
Javelim
Portlim
Xenolim

Dessert

Warm white

Vitalim
Maxlim
Grolim

Inkalim Vegalim

Warm green


Lunalim
Starlim
Sunlim
Vegalim
Donalim

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Limgroup knows its way around



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Thank you very much!



Good luck with this healthy and delicious vegetable

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