

# Adding value the European way<sup>©</sup>

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## INTRODUCTION

In Dutch industry adding value is usually linked to marketing: Point of sale materials like product labels, and packaging. But adding value can mean different kinds of things in nursery production. In this presentation I will indicate several trends on the continent, developments, and examples of added value for nurseries in several countries.

## ADDED VALUE FOR NURSERIES

### Drones

Drones will be the future on several nurseries, and in fact it is already present at some. Boys with toys? Maybe. But the main reason why nurseries are now looking at drones is the added value of this flying technique (Figure 1).



Figure 1. Drone in nursery.

The most simple thing is that flying a drone above your nursery with a camera for making a movie can be more spectacular than the latest James Bond. More nurseries are using drones for a company presentation to show customers what they produce, how big their crop is, and which techniques they're using for the best quality. That's a marketing benefit of drones.

The biggest benefit that growers expect will be big data of their crops, like leaf area index, amount of biomass, and presence of diseases. Data on soil conditions is also available including: are there are some spots on your field where plants grow less; is there something wrong with the soil, such as drainage, organic matter, amount of nutrients?

A drone and a special camera can see differences that you can't see with your own eyes. Afterwards you can take soil samples, or use more sensing techniques on your machinery for more data. Combined with Global Positioning System (GPS) you can fertilise or spray more precisely.

In addition, the first drones are now being developed for actually spraying a nursery. They can take, for example, 10 L of liquid in the air, and spray from above with a boom and nozzles. A flying tractor, indeed.

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In Holland everybody has to map their fields for government use to show how many acres of every crop they're growing. The first grower used a drone for this which was easy, fast, and accurate. He's now thinking (out of the box) of using a drone for measuring tree quality; when you can make 3D images of the girth, you can put this data into your stock of sale. No more measuring a tree by hand with a tape and writing down the data in a book.

### **Robotics**

Robotics will also be the future. A lot of nurseries already use a potting robot, but is that really a robot when they pick up a row of plants, and put them on a conveyor belt? According to experts from universities, a real robot can handle diversity, it can detect a difference like a different colour of a plant, and then decide on its own what to do with it such as take it out for despatch or leave it and drive to the following plant.

The added value of robotics has already proven at fruit growing nurseries—they put a robotic system on a tractor, they teach the robot how to drive and what to do (like mowing grass or spraying trees), and then the robot just plays back the program at night or when the weather conditions are best for the spraying result.

On several American nurseries little robots do the work that people find boring: putting potted plants in a field, spacing them, or pick them up again. These American nurseries save a lot of labour costs and their staff have more time for doing real craftsman work.

Prototypes are now being developed for more added value, like weed control. But there's a challenge, a robot has to distinguish the real plants from the weeds, otherwise it can destroy those real plants. And it has to distinguish different kinds of lights. In morning light weed can look different than in the evening, and the soil can also matter.

### **Adding value with machinery**

When adding value with machinery it all comes down to capacity and speed. A Swiss factory build a machine for lifting out five rows of forestry and hedging seedlings at the same time. When soil and weather conditions are right, the nursery (in Holland) uses the machine for lifting seedlings as much as possible (Figure 2). Storage capacity is also needed then.



Figure 2. Forest seedling bed lifter.

Another trend on some nurseries is weed control with a big capacity—spraying three or even seven beds at the same time (Figure 3).



Figure 3. Danish weed control machine in seedling beds.

Also still a trend on nurseries is the use of one machine for several purposes like drilling bore holes for planting, weeding, and making rootballs. In addition a Dutch nursery is using special equipment for pruning hedging plants for medicine supply. The nursery is completely run by GPS, and hedging elements are lifted by this machine (Figure 4). And what about sorting out forestry and hedging plants automatically? This is being done by a one and only machine so far running in Zundert.



Figure 4. Hedging elements lifted by a machine.

### **Growing systems**

These can also add value. A few Dutch tree nurseries invested in a gutter system made of air pot material to have the benefits of air pruned roots and the benefits of a closed system for watering and fertilisation (Figure 5). The gutters are also labour friendly by being installed at a height of approx. 1 m. Different growing media were tested, and they concluded that trees in gutters with coconut fibre grow as good as in peat.



Figure 5. Trees growing in gutter system.

Several nurseries grow their trees now in slotpots, again with the benefits of air pruned roots, and the handling benefits of ordinary containers. They say that air pots are too labour intensive because the potting up has to be done right on the field, as air pots don't have a bottom. Therefore they have to replace air pots for despatch by something with a bottom, or they have to burlap it. But on the other hand, Italian nurseries like air pots for growing big specimen trees. If they won't sell this year, they can easily grow a few more years in the same air pot.

Dutch councils ask more for trees with their own roots so they don't have the disadvantages of grafted trees which can occur with different species such as no delayed incompatibility or a lot of maintenance because of suckers from the rootstock. A few Dutch nurseries have specialized in trees with own roots it gives them extra value on the market (Figure 6).



Figure 6. A field of Dutch trees on their own roots.

### **Sustainable production**

This is becoming more important on both the amenity market as well as the retail market. But how can you show that kind of production? With a certification scheme that

proves you produce according to standards. Or by showing customers what's happening on your nursery.

A trend in Dutch agriculture is now the use of drip irrigation, mainly on fields of potatoes and lilies, and on a single nursery with ornamental trees and fruit trees (Figure 7). That kind of irrigation is much more efficiently than irrigation guns, because the water drips right into the root system. It's common on nurseries in Oregon to keep the trees growing even in a dry season. And also common on fruit tree nurseries in Italy.



Figure 7. Drip irrigation fruit trees

#### **Different forms of trees**

This can also add value. A big Italian nursery, for instance, developed a fruit tree for better growth and crop results. Instead of one graft, every tree has two grafts and therefore two similar growing leaders (Figure 8).



Figure 8. Italian Bibaum® fruit trees.

Several nurseries are specialized in big specimen trees, but also in big specimen plants, or even climbers in huge container sizes. All for instant impact in a garden or a landscape project. Added value? Yes, but the production and logistic costs are also added, so the pre-investment will be higher than average tree and shrub sizes.

Also the risk will be higher, looking at unusual weather thanks to climate change. The chance of storms, heavy rainfall, hail, drought, and extreme frost is becoming larger. Last summer the south of Holland received so much rainfall that even higher grounds couldn't drain it quickly. Tree fields were flooded for days. After that the area was hit again, but now by a supercell, a thunderstorm with hail as big as tennis balls. Crops were lost forever.

What can nurserymen do against extremely weather? Ensure their crop, but Dutch insurance is too expensive according to them, and their own risk is too high. One tree nursery with a gutter system invested now in a hail net which is common to protect fruit orchards. One thing is for sure: risk management is a part of running a nursery.

### Added value in marketing

Point of sale material is inevitable to sell a plant in retail. That begins with a product label. But what is a good label? Written in different languages, to please consumers in different countries? Using symbols to show the customer to remove the pot before planting and water it enough?

A Dutch retail expert judged product labels made by nurserymen. According to her a label adds value when it doesn't show useless information, it has to be simple, neat and it's positive when the label, pot, and plant look together like a union.

Another label example is fruit from your garden, grow your own: a picture of red berries and 'Vitamin C' says it all.

When the plant is distinctly different from other taxa, there's a trend in branding. Like the Brazel Berries®, compact growing *Vaccinium* selections bred in Oregon, put on the market by a German nursery. It was the best novelty at the last IPM Essen show (Figure 9).



Figure 9. Brazel Berries®, compact growing *Vaccinium* selections bred in Oregon, put on the market by a German nursery.

A nursery from Austria introduced at the IPM Essen show a new brand of *Ilex crenata*: 'Robustico', which means competition for Dark Green® Japanese holy ('Icoprins11') and 'Blondie' PBR. Customers hardly see a difference between *I. crenata* 'Robustico' and *Buxus*.

Also seen at the IPM Essen show: KiwiBerry, kiwifruit (*Actinidia*) the size of grapes

that you can eat in total. A German nursery designed the label with a kids look, to make a difference between a male and a female plant, and to promote this product as a healthy kids snack (Figure 10).



Figure 10. A label with a kids look to make a difference between a male and a female plant.

Some trends seen at the Salon du Vegetal in France: *Silence ça pousse!* (Be quiet, it's growing!) is the name of a famous French gardening show, big nursery of Minier has got the exclusive rights to use this name on labels of different garden plants.

According to this French trendhunter, the colour yellow is now in fashion. Garden plants who show a contrast with yellow, are best suited for a yellow pot and yellow label. Should the grower paint his hair yellow too?

In the same area as the French show is a big nursery specializing in liners of hydrangea—three million per year. They developed a niche product: a hanging basket with eight rooted cuttings. The result will be a big flowering hydrangea basket.

How can you add value to a retail product when it's sold with bare roots and no leaves? Wrap an attractive package around it as a Dutch nursery introduced at last Plantarium show. The box should be easy to carry and inside the customer finds five roses, enough to plant a rose garden of 1 m<sup>2</sup>.

Making gardening simple to customers, that's also the idea behind several hedging plants concepts which are on the market for years now. Like "Ten plants for 2 m of hedging."

Promoting the product outside the nursery can also add value. Years ago big American nurseries designed promotion trailers for their branded shrubs: "Now appearing at a garden centre near you". Those kind of trailers you can see now also on motorways on the continent.

Consumer labels and certification schemes are being used more and more on the continent. They promise customers that the plant is produced, for example, in a responsible way towards the environment and staff, like Fair Flowers Fair Plants.

In France a lot of growers use the national labels *Plante Bleue*, *Label Rouge*, and *Fleurs de France*, because they say French consumers like to buy French made products. But the rules to get a label are not that tight: you can use *Fleurs de France* when 50% of the production time was in France. Then the liners could be imported from Holland.

### **Promoting national grown product**

You can see this in several EU countries. In the German landscape and along motorways, it's even a law to use German provenances. Trees and plants should be grown in the same area as where the seeds are coming from. This trend of native planting started in

Bavaria, where growers have to be certified by the EAB system: that proves the genetic quality of the plants.

A few years ago the German nursery association set up a national native system with their government, called ZgG. For this, Germany is divided in six provenance areas. When a grower wants to deliver trees in one area, they have to be grown in that same area. But also growers outside that area, even in a different country, are welcome to join the German system. They have to grow along the system standards: started with seeds coming from one particular area. The certification is added value to growers.

That German system for natives is a German legislation. Is that added value when you are obliged to use it, and when you don't, you simply can't supply the market?

Same question you can ask regarding EU legislation of foreign pests and diseases. Passports are required for several nursery products within the EU trade. Will it be more? If you look at what happened over the last 10 to 15 years: organisms that are dangerous to the industry and the green space. Quarantine organisms such as Asian longhorned beetle and *Xylella fastidiosa*. Quality diseases like *Phytophthora ramorum* and ash dieback.

The phytosanitary service of Lombardy set up a special system to detect early symptoms of the beetle. They made a grid with GPS, where all host plants are located and checked a few times a year. Added value? Could be. Important for nurserymen is also, can you trust a system like that?