Paper Pots in Liner Production: Experiences with the Humulus Pot

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INTRODUCTION

Humulus pots are produced from the same material as egg packaging which is 100% recycled paper. The measurements are 9 cm × 9 cm × 8 cm, the volume is 365 ml, and it is food-grade material.

At Kordes Jungpflanzen, trials were undertaken of all available biodegradable and recycled pots before selecting Humulus pots for the production of young plants in large quantities in 1992. Since then more than 12 million young plants grown in Humulus pots have been delivered to customers.

The reasons for choosing the Humulus pot were:

- It is pressed twice for strength;
- It runs well in the magazines of potting machines;
- Its costs are reasonable.

When the new pot was introduced customers were deliberately not informed. This was so that they would receive an order in which some plants would be in Humulus pots and others in plastic pots which enabled them to see that growth was equally good in both cases.

CULTIVATION AND TRANSPORT

For cultivation and transport of the Humulus pots Kordes Jungpflanzen uses a tray system. The tray contains 15 pots, measures 53 cm × 31 cm, and fits well into CC-Containers. The pot stands very stable in the tray, making bed frames unnecessary. Plants in partly filled trays remain stable and do not fall over. Handling and transport are easy with this system. In one mechanised operation the trays can be laid down, pots placed in the tray, pots filled with growing medium, and planting holes drilled. Plants are potted by hand.

Pot spacing in the tray is designed to give every plant a growing space of 10 cm × 10 cm but pot placing can be staggered for plants such as groundcovers or roses which need more space.

Humulus pots are suitable for cultivation in other types of holders, transport systems, or pot trays. The only point to watch is the length of time plants are allowed to stand close together because they are able to root through the pot walls and into one another. However, the tray system used at Kordes Jungpflanzen allows for growing up to 2 years.

During production Kordes Jungpflanzen treats the Humulus pots like plastic pots. In dry summers a little more water is needed than with plastic pots and Humulus pots require a little more nitrogen due to the decomposition of the pot. With the same amount of fertiliser the plants grow just a little bit less than in plastic pots.

Root growth is better in Humulus pots because plants root through quickly and there is no root circling.

In humid and wet periods the drainage is a lot better in Humulus pots compared with plastic and problems with *Phytophthora* are reduced. Humulus-grown plants are hardier in the winter because the range of temperature in the medium is not as high as with plastic pots.

ECONOMIC CONSIDERATIONS

The Humulus pot is not only ecological it is also economical. It costs 1.5 Pfg. (ca. 0.8¢ U.S.A.) more than an equivalent-size plastic pot. But the extra cost is recovered because with the Humulus pot there are no costs associated with pot removal at potting on or planting out. Unsold plants and plants not reaching specified quality standards can be composted along with the pot.

In Germany an additional advantage is that there are no costs associated with waste disposal with the Humulus pot as there are with plastic pots. These considerations will be important in other European Community (EC) countries as waste legislation becomes more widespread.

There are also economic advantages for the customer:

- Less time, and therefore cost, for removing pots;
- Planting and potting is faster, hence cheaper;
- Saves picking up and disposing of pots;
- Costs for transport and waste disposal are lower.

Paper pots are especially cost saving for garden and landscape companies.

CONCLUSION

From the experience of Kordes Jungpflanzen, biodegradable paper pots such as the Humulus Pot have many potential advantages:

- The pot saves money;
- It performs better with respect to forthcoming environmental laws;
- It has reduced waste disposal costs;
- It improves the image of the nursery;
- It can win new customers.

Kordes Jungpflanzen would be happy to do its whole production in the Humulus pot. Customers who have used them are increasing the proportion of the plants they grow in Humulus pots.