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## New Ideas from J.C. Bakker & Sons Nursery®

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Before I start, I would like to bring greetings from Gerry Dehaan who was supposed to be bringing this presentation. Gerry this year is celebrating his 20th anniversary and promised to take his wife Joyce somewhere special. Gerry had I.P.P.S. in mind but it didn't fly with Joyce. Some guys have got to get their priorities straight.

At any rate it is good to be here. In this talk I would like to briefly share with you just a few of the things that are happening at Bakker Nurseries these days. Many of the new ideas I will touch on, are not really new, but are simply improvements on old ideas. The first topic, a portable water source, is something we have had around for many years. It is a piece of equipment that gets used a lot and we felt there was room for some improvements. Our old water wagon worked well but was getting tired. So it was time to build new. I would like to go over some of the features on this new system. The most outstanding feature on this unit is the mechanical watering boom (Fig. 1). This boom, along with all other controls, is operated by one person as opposed to two on the earlier model. The watering boom is retractable and can be raised and lowered for different applications. We use the system to spot water small areas instead of running irrigation, or in areas where no irrigation is set up, such as in the fields and on the loading docks. Other interesting features of this piece of equipment include carry-on hoses for coupling to irrigation, an internal ventura-type agitation for mixing additives to the water, various hand-held nozzles, and a lockable storage compartment. This unit is powered by a Kubota diesel engine and is also completely self draining for frost protection in cold weather.

Speaking of cold weather, my next topic is on snow load protection for conifers. In our field production of evergreens we are often faced with heavy snow and ice loads



Figure 1. Mechanical watering boom.

which can do sever damage to certain evergreens breaking branches and destroying their form. In order to prevent this in the past, it was our practice to lace up the plants using plastic twine (Fig. 2). This worked well but was very labor intense. The last number of years we have changed, from using the twine, and gone to using large elastics. The elastics work well and have reduced the application time incredibly.

Keeping our budwood fresh in the heat of the summer is always a concern especially with large bud crews and many different varieties of budwood. Most of our budwood is collected early in the morning, and is wrapped and stored in cold storage until it is needed in the field. At that point we take the wood out to the field in this bud-wood box (Fig. 3). The shelves help separate the taxa and prevent the wood from being bruised. The box is lined with Styrofoam to keep the wood cool and the boxes are put onto a farm trailer and kept close to the budders in the field.

The next item I would like to speak on is a piece of equipment we have made up for the cutting back of budded stock in the spring (Fig. 4). This too is nothing new to most tree or rose growers, for I have seen this type of equipment at several other nurseries. I would like to share with you some of the ideas that went into this one. The unit we have made is a 3-point hitch type with a P.T.O.-driven compressor. It is



**Figure 2.** Lacing up evergreens to prevent snow and ice damage.



**Figure 3.** Bud wood is taken to the field in a bud-wood box.



**Figure 4.** Piece of equipment for cutting back of budded stock in the spring.

capable of taking along seven rows at a time and, because of its width, it has folding arms for road travel. When the “wings” are on the ground, they free float to follow the contour of the land. The seats for the people cutting can be positioned forward or back to suit the operator’s preference. The seats can also be offset to further accommodate the operator’s reach. On the underside of the units we have a strip of UHMW (ultra high molecular weight) polyethylene, which acts as a slide along the ground, keeping the unit as close as possible to the ground. Quick couplers at every seat, attach the pneumatic-type clippers. If any one has ever used pneumatic clippers, or other air-driven devices in temperatures at or below freezing, you know the problems you can have with icing up of lines and equipment. This compressor has an air dryer, a water separator, and an automatic oiler. In cold temperatures, the automatic oiler is run with a mix of 50% pneumatic tool oil and 50% diesel fuel conditioner. The only thing still freezing up now in these temperatures is the employees.

In the designing of this piece of equipment, our objective was ease and comfort for the operators, with the anticipation that this would result in increased accuracy and productivity. This isn’t always the case.

At Bakker’s, most of the trucking we do is looked after in house by our own drivers. However the equipment we use is all rental. This is a simple shelving system we have come up with to fit various truck widths. The shelving system consists of shelving boards and metal racks which go along the walls. The racks have a stepped ledge to hold the shelf. The shelf finds its own position on the rack depending on the trucks width. The weight of the shelf and the product on the shelf hold the racks in place. The racks are made for two or three tiers and, some of the shelving has a metal lip to avoid sliding of the product.

Global Positioning System (GPS) soil sampling is not so new anymore, but we feel it is a very useful tool in field growing nursery production. The process is simple; a satellite receiver attached to an all-terrain vehicle (Fig. 5), is driven around the perimeter of the farm. This generates a map of the land to be sampled. The map is then divided up into a grid pattern and the sampler drives this pattern, taking samples at all the points designated by the satellite map. The samples are then analyzed, and the nutrient information is then fed into the system. This in turn generates colour nutrient mapping of the land being sampled. This information can be used to gain a better understanding of your nutrient requirements. This information can also be fed into



**Figure 5.** A satellite receiver attached to an all-terrain vehicle.



**Figure 6.** Standard roses in the field.

a variable-rate fertilizer spreader, which applies the nutrients only where they are needed. We have found that the benefits of this type of soil sampling far outweigh the initial cost of these analyses. There usually is an initial savings in nutrient cost but the greatest benefit is in crop performance and uniformity.

The last new idea I would like to touch on is our standard-rose program (Fig. 6). Standard roses have always been a popular item in the garden. But there are many difficulties in the care of this plant related to a lack of hardiness in both the understock and the rose. Recently we have selected some of the hardiest and cleanest rose cultivars and are now grafting them onto a selection of *Rosa rugosa*. The result is a low-maintenance, high-performance, hardy rose standard that we can grow in Canada.

Thank you for this opportunity to share with you some of the things we enjoy doing. We welcome any questions if there is anyone who needs more details on these items. Or, better yet, come on down and see us.

Thank you!