

Sampo HR46x in Scotland

Hilary Burke reports on the visit of Sampo Rosenlew's HR46x harvester to the forests of northern Scotland in mid February.

THE woodlands manager for the Moray Estates had agreed that the machine could be put through its paces in part of a first thinning operation scheduled on the Darnaway Estate.

Forestry is a vibrant business on the shores of the Moray Firth and there is a varied mix of species in Darnaway Forest. Beech and oak form a proportion but conifers have been a mainstay of timber production for over 250 years. Alongside pines and spruces, a wide variety of soil and site conditions have ensured that conifers such as larches, Douglas firs and silver firs retain a place in the establishment plans.

Buoyant timber prices have allowed foresters to start thinning at the optimum age where conifers have responded well and are growing fast. The Sampo HR46x was set to work removing racks and selecting from the remaining crop in Douglas fir that was thriving well on a lightly ploughed mineral soil. Dominant trees were already making themselves noticeable and in the rack removal tree sizes up to 0.35 m³ were being encountered.

Joe Litter of Oakleaf Forestry and Teijo Kuusisto of Sampo Rosenlew had geared the demonstration event

towards machine operator participation. The objective was to enable experienced operators to get the feel of the machine and give their feedback rather than achieve a high volume production. Dougie Wheeler was one of the harvester operators who took the controls of the HR46x and swung the Kesla 18RH2-II head amongst the Douglas firs.

Dougie hails from along the coast in Buchan and studied at the Scottish School of Forestry near Inverness. He is no stranger to Darnaway Forest where he worked on forest management duties. Starting as a harvester operator on a tracked Tigercat machine, Dougie has become familiar with a wide range of harvesters in a fairly short period. Working throughout the British Isles he has also put a considerable variety of timbers through the harvesting head.

With Teijo Kuusisto at his shoulder, Dougie soon adapted to the controls of the HR46x as he started the second marked rack. The inter-rack selection of trees was soon showing the uniformity of thinnings removals that allows optimum timber growth in the stand to be maintained. One earlier visitor had expressed concern that the 7.1 m reach of the Kesla parallel crane might limit the machine's

ability to reach all parts of the stand.

As the operation proceeded it was clear that his misgivings were unfounded. The 55 kNm lifting capacity of the crane was quite capable of handling the Douglas firs even at maximum reach, but it was still nimble enough to deliver the harvesting head quickly and positively to the selected stem. The machine's side tilt – useful on steep or sloping ground – can also be used to assist fast and accurate positioning of the head through the standing crop. Low positioning of the crane base not only enhances machine stability but also improves visibility for the operator.

Dougie Wheeler's opinion? For such

a small machine the cab is well laid out and comfortable, and getting used to the controls is surprisingly easy. He is not the first experienced operator to express this view; on a previous demonstration Even Forestry's Ashley Rolfe had noted that the Sampo HR46x 'felt good and powerful straight off'.

As Dougie Wheeler stepped down from the cab and made way for another Scottish contractor, Oakleaf Forestry's Joe Litter was keen to know what Dougie had felt about the power of the Sampo/Kesla combination. Advice from Teijo Kuusisto had assisted

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Dougie to position the head for the felling of the last Douglas he cut in the rack – the on-board computer had suggested that the cutting diameter was close to the maximum limit of the machine's operating envelope.

With the stem cut and the large crown lodged in the standing crop, Dougie Wheeler could take control. The Kesla harvesting head ran up through the tough lower branches and the Kesla crane held position perfectly. Backing the machine a few metres eased the angle and a second run removed the next whirls of branches.

Centre image: Oakleaf Forestry demonstrated the Sampo HR46x harvester in a stand of Douglas firs on the Moray Estates woodlands in mid February. The event was an opportunity for machine operators to experience the handling attributes and capabilities of the lightweight and compact machine.

Top: Working early thinnings in an unfamiliar harvester is never an easy task, but operators confirm that the cab is unusually spacious for a base machine of such reduced dimensions. Adapting to the controls is, reportedly, a surprisingly quick and easy process.

Above: Dougie Wheeler moved into harvester operation after studying at the Scottish School of Forestry. Back in Darnaway Forest – he had spent some time on the estate during his student days – he spent an hour in the cab of the Sampo HR46x harvesting Douglas fir and was impressed with the performance of the machine.



A visiting forester takes a close look at the Kesla 18RH2-II head. Upgrades to the tried-and-tested base machine now provide an ample power supply for the efficient operation of a crane and head normally suited to larger harvesters.



MACHINERY DEMO



Top: Accurate positioning of the head for stem removal can be a difficult task in fast-grown young crops. The Kesla parallel crane geometry, responsive hydrostatic drive to the four wheels and the tilting system of the cab all assist in the speedy and precise positioning of the harvesting head.

Middle: A major cause of lack of efficiency in thinnings operations is often time spent bringing the crowns of cut stems down through the canopy. While the Sampo HR46x has the light footprint desirable in a thinnings harvester, provision of a substantial reserve of power to operate all attachments efficiently was also a key design feature.

Above: Current timber prices make it a viable option to process first thinnings as a single selection for woodchip production; especially when concentration on removal of poorer-quality stems is the remit. In fine timber or in subsequent thinnings, the Technion computer system can accurately control the Kesla head's operation to increase value by producing a multiple range of timber specifications.

Main image: While the reduced dimensions of the base machine allow the operator some leeway when removing the first racks, its real merit is revealed in later thinning operations. The harvester's mobility allows it to work 'off-rack' yet still present timber for efficient forwarder uplift.



The measuring system was still holding true and the first log was cut cleanly into the timber zone. "For such a small machine, it certainly has some 'grunt' when you need it!" was Dougie Wheeler's verdict.

Out on the forest road, machine operators' talk turned to the merits of certain marques of forest machinery. Tigercat, Komatsu, Rottne, Logset and Ponsse were all mentioned... along with John Deere, of course. The Sampo Rosenlew HR46x may be seen as the 'new kid on the block' but there may be a myth to dispel here.

Teijo Kuusisto is insistent that the HR46x harvester has been designed specifically as a machine for early and intermediate thinning operations. Larger harvesters may offer a more flexible operating envelope but their efficiency will be compromised. A major strongpoint in the Sampo Rosenlew harvester's favour, for example, is its low fuel consumption. Working even the earliest thinnings the lightweight and nimble machine uses diesel fuel at a rate of just under 7 l/hr.