



Safety Guidance for Managers – Felling Dead Ash

April 2018

Background

Ash Dieback disease or Chalara (*Hymenoscyphus fraxineus*) is killing a very high proportion of our woodland Ash (*Fraxinus excelsior*) trees. The situation is compounded as the disease weakens the trees natural immune system and allows the Honey fungus (*Armillaria mellea*) to attack, the result is that we will be harvesting trees which have a very high proportion of deadwood in the crown and are also likely to have no significant fibre strength at felling height.

It is therefore, essential that we consider how we plan our operations to remove the risk of accident or injury to chainsaw operators working in these areas. The primary consideration must be whether the job can be done by other means, the best control measure must be to use mechanical harvesting equipment where the operator is in a protective cab. Where this is not possible it is more important than ever that a chainsaw operator is both competent and properly equipped.

Additional Considerations

1. The increase in crown deadwood dramatically increases the risk of an operator being hit by falling branches and tops, this is most likely when the tree begins to fall or when wedges are being driven into the back of the tree, as the shock will vibrate through the stem and loose material will fall. It is essential then that operators retreat fully into their escape route when the tree begins to fall and that the use of traditional wedge techniques is minimised. Helmets and felling jackets will offer only limited protection from falling deadwood, there have already been incidents where helmets have failed, and operators have been seriously injured by even relatively small branches.



The operator in the picture to the left was wearing full PPE but the falling branch broke the peak of his helmet and pushed aside his visor tearing a large hole which required reconstructive and nerve replacement surgery. He had stepped back into his escape route but in his own description of the accident he recognised that it was not far enough. Operators must recognise that when working in crops with dead or dying material above them, the usual 2-3 metres will not be sufficient.

2. The fibre length in Ash means that typically an operator will “Thin” the hinge to the minimum dimension that will maintain control over the felling direction but also minimise the risk of the tree splitting up the stem (Barber Chair) and injuring the operator. In dead or dying Ash, particularly where Honey fungus is present this fibre length will be reduced dramatically and the risk of a tree breaking the hinge and falling in an uncontrolled manner is very high.



It is essential that an operator recognises where this weakened timber exists and maintains a stronger hinge than normal. It is also not recommended that an operator bores the centre of the hinge as this again will reduce the amount of effective hinge.

The picture left illustrates what can easily happen when the dead fibres in the hinge wood fail and are unable to control the direction of fall. In this case the centre of the hinge was bored out, but the hinge wood was left strong on either side. The operator had made felling cuts high in an attempt to work above the level of decay from Honey Fungus, which should be normal practice where decay is evident with cuts being made safely at a height of up to one metre.



3. It is very likely that when felling in a crop which has suffered from an attack of honey fungus that neighbouring trees will be knocked or dragged down as consequence of felling the intended tree. This again can put the operator at considerable risk in particular where trees with very weak root systems are reliant on the mutual support of the other trees in the crop. Clearly whole trees falling from behind the operator are an unacceptable risk and in these situations every effort must be made to mechanise the felling operations.

Competence and Equipment

1. All operators working in this type of material must be made aware of the additional hazards and the associated risk. It is essential that these operators are capable of identifying where Honey fungus is present and where timber has decayed to a point where fibre strength has been lost. They must also be able to make appropriate judgements on how they will modify their work to mitigate the risks presented by falling deadwood and the potential loss of directional control.
2. Supervisors and managers planning works must be competent to assess the risk and propose safe systems of working which will protect the operator and the wider interests of management.
3. Where a tree requires the use of wedges to assist in the directional felling the operator



must be aware that the vibration caused by hammering a wedge could dislodge deadwood from the crown. Where this is possible it is recommended that operators use mechanical wedges which have a more progressive action as they are worked into the tree minimising the shock and vibration through the stem. If traditional wedges are used then it is preferable to use wedges with a more acute angle than traditional high-lift wedges these are driven into the tree with less force, the thought being that this will create less vibration and will therefore dislodge less deadwood.



4. The use of bottle jacks is not recommended due to the lifting nature of their operation which increases the likelihood of the hinge breaking early and directional control being lost. However, mechanical tree jacks such as the Stalpen or the Reipal have been tested successfully in felling other species of deadwood and have proved very effective in reducing any vibration through the stem and providing a pushing motion which is less likely to break the hinge.



Conclusions

The felling of dead and dying Ash in effect makes an already hazardous operation much more dangerous, it is essential that every effort is made to fell these sites mechanically and to keep any chainsaw operations to an absolute minimum.

Additionally, managers and main contractors must ensure that risk assessments and method statements are effectively communicated to all operators and that only the most competent and well equipped operators are used on sites where dead Ash is prevalent.



Suppliers information

Reipal Mechanical tree Jack -

Orion Forestry
Takeley Business Centre,
Dunmow Road, Takeley,
Essex, CM22 6SJ

www.orionforestry.co.uk/reipal/

Stalpen Mechanical Tree Jack -

Svedbro Smide
Östra Stationsvägen 45
820 77 Gnarp
Sweden

www.svedbrosmide.se/en/about-us/contact-us/

TR24 and TR30 Mechanical felling wedge –

D A Hughes Forestry
Station Yard
Llanrhaeadr - Y - M
Powys SY10 0AG

www.dahughesforestry.co.uk/home/online-shop/

Koller mechanical wedges –

Grube Hützel
Hützeler Damm 38
D-29646 Bispingen
Telephone: 05194 - 900-0
Telefax: 05194 - 900-270

<https://www.grube.eu/forestry/timber-harvesting/wedges/?p=1>