

Ash Dieback Chainsaw Operator Guidance

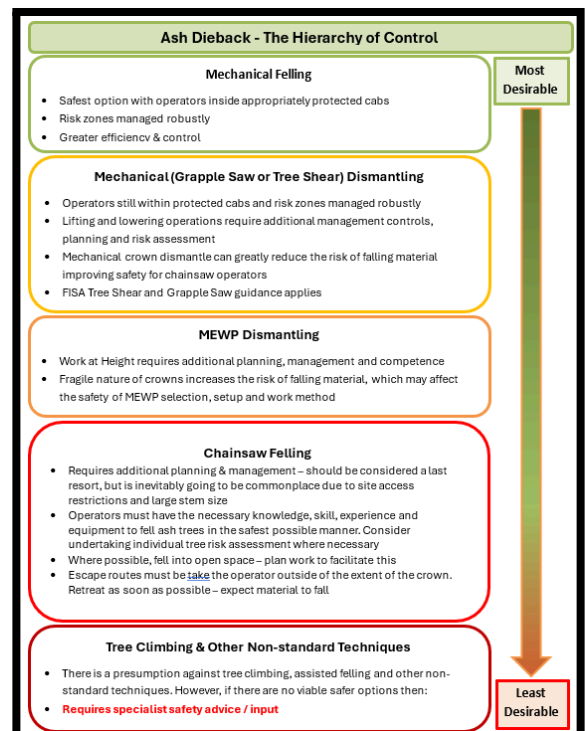
Background

The removal of trees affected by Ash Dieback (ADB) is now part of a Hierarchy of Control strategy with manual felling using a chainsaw considered one of the least desirable options.

Using chainsaw operators to fell diseased ash introduces additional hazards that require careful planning and management with well-considered controls, operator consultation and collaboration.

Planning

Hierarchy of Control ensures that the decision to fell using chainsaws has been made only after other safer methods have been considered impossible or totally impractical to implement. The diagram to the right (From Euroforest ‘A Safer Alternative’ manager guidance) describes a process for selection of the safest system of work, if chainsaw operations are required it is essential that operators are competent and specific risks are communicated, other documents that may be referred to are the Euroforest toolbox talk, the single tree risk assessment and “Reducing Risk Exposure in Ash Management”.



Selection of Operators

Operators used should not only be qualified to the appropriate standard but should also have knowledge, skill and experience of felling hardwood and preferably of felling diseased ash.





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Operators without specific ADB felling experience should be partnered with an experienced operator until they gain competence in felling diseased ash, whilst still respecting risk zones.

Operator briefing

All chainsaw operators engaged in felling diseased ash should be thoroughly briefed using all available guidance, particularly relevant toolbox talks. They should have a clear understanding of:

- The four stages and progression of ash dieback.
- The safety implications of ash dieback and secondary infection
- Reasonable precautions and working procedures as described in this document

			
CLASS 1 100%-76% crown remains	CLASS 2 75%–51% crown remains	CLASS 3 50%–26% crown remains	CLASS 4 25%–0% crown remains

In the early stages of ADB the timber will react as normal with strength in the stem fibres and little in the way of branch drop/shedding. This does not mean felling the trees is easy. Ash has always tested chainsaw operators and requires accurate cuts, precise alignment (correct ratios of felling cut, hinge and finishing cuts) – “near enough is not good enough”.

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The Chainsaw Operator has an important role in identifying the stage of infection that an individual tree is in, only the operator is able to evaluate the context of individual trees with consideration to neighbouring crowns and the terrain.

Trees in Stage 1

In general, a tree identified as Stage 1 can be felled normally, however an operator must remain vigilant in identifying signs of ADB as work progresses.

The first cut an operator puts into the stem will confirm its real condition. Chips should be white or pink, of a good length and should have no unpleasant smell. If this is confirmed standard felling and the use of felling aids such as wedges, powered wedges and tree jacks can be used. Winching of ash with the first stage of infection with ash dieback is viable but the use of two ropes with winching equipment providing mutual directional control should be considered. Single pull directional assistance is not ideal if any major deviation from the natural felling direction / lean is needed.

If the chips are grey or brown, break into short, square chips, or have an unpleasant smell, an operator should stop and reassess their controls ensuring that additional clearance of escape routes etc is completed and techniques are adapted to take into consideration the reduced integrity of crown and stem wood (see Stage 2&3 below).

Trees in Stages 2 & 3

Felling Aids

Ash trees that are identified as being in stage 2 or 3 and are showing distinct changes to the timber quality at the stump will require a further modification of felling techniques.

Felling aids must not be used where timber quality is compromised and dead or dying branch wood is visible in the crown of trees. Wedges particularly high lift and hard head wedges will impart enough shock into the stem to dislodge large sections of branch wood, with the operator in a vulnerable position at the base of the tree.

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Mechanical and hydraulic wedges can reduce the shock but do not eliminate it, they may also impose a higher degree of lift acting on a weakened hinge which may fail suddenly.

Tree jacks should not be used because of the upward force they exert on the weakened hinge and the additional time required for an operator to work under the crown.

Winch assisted fell in stages 2 & 3 is an acceptable option in certain circumstances. If winch assistance is to be used, then all chainsaw work must be completed, and the chainsaw operator must have moved out of the risk zone before any tension is applied to the winch line.

Approach and Equipment

Felling work in ADB requires a different mindset. It is essential that all production targets or financial considerations must be put aside. Safety must be the only consideration and time is the critical factor, no one should ever rush or be pressured into meeting targets.

Chainsaw selection will always come down to the operator preference, as will bar and chain combination, however it is essential that a saw with enough power and torque to accommodate a bar of an adequate length to avoid the need for buttress removal or boring the middle of the hinge is chosen.

It is important that the maximum available wood is retained in the hinge to retain control and keep the connection between stem and stump for as long as possible, even a hinge much thicker than would normal will break readily and much sooner than expected. The lack of integrity in the hinge wood is the primary reason why directional felling is not an option with advanced or stage 2 and 3 ash trees.

Felling cuts

Any tree with ADB should be felled only in the direction of natural lean. The single exception is for trees with a very early stage one infection that the operator has confirmed have sound timber at the stump.

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In stage 1 trees the possibility of a stem splitting and 'barber chairing' remains and to combat this accurate felling cuts must be used. It might also be necessary to use holding cuts and in cases where trees have excessive lean, complex cuts to prevent splitting and a potential "barber chair". The likelihood of a stem splitting is much reduced in trees in the later stages of ADB but it must always be considered as a potential hazard.

Operators should also be aware that the stem wood of trees with ADB is very dry and can quickly take the edge off a sharp chain, it is essential to work quickly reducing time in the danger zone and maintain accurate cuts, chains must therefore be sharpened regularly. Never try to force a dull chain and never start felling cuts without a fully sharpened chain.

Felling direction

The first step in felling diseased trees is to assess the lean of each tree and plan to use gravity as the most effective felling aid. Trees in advanced stages of ADB will only be felled with the lean, any attempt at felling off the line of the lean will see the hinge break as gravity takes over, particularly on tall trees with large crowns. Having identified felling direction, it is important to consider any trees in close proximity, either in front of, or to the side of the tree being felled, as rule these should be felled first. Do not attempt to fell diseased ash past other trees, even if they will just 'rub past' them. Branches falling out of the felled tree as it moves are dangerous, but those that are forced to break by contact with branches of other trees will have much more energy and become projectiles that travel quite some distance. Always fell into open spaces and if further processing of the trees is required by a chainsaw operator it must be on open ground with no overhanging tree canopies where broken branches hang up and fall without warning. Ensure all risk zones are maintained. Importantly, other than directly in front of a falling tree, one of the most dangerous areas is behind the line of the felling direction, as large pieces of timber can fall or be thrown backwards with considerable force.

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Escape routes.

Working with ADB, especially in the later stages, places operators in a particularly dangerous environment. Anyone around the base of a diseased tree is at risk from falling material.

It is critical that escape routes are identified and cleared of debris before felling starts. On steep ground it may be difficult to move in any other direction than across the slope, but care must be taken to ensure an operator is able to put as much distance as possible between themselves and the falling tree. When felling up or down hill escape routes may be compromised, and footing can be difficult but both up and down slope can provide viable options if movement to the side is obstructed. The standard distance of 3m will not be enough to eliminate the risk of falling branch wood, aim to increase this to a minimum of 5m (or at least the spread of the canopy). Risk will always diminish the further you can move into an escape route, One further complication in managing escape routes is that where ADB trees have been felled the shattered branch wood will create a floor of makeshift rollers which are virtually impossible to clear and will impede rapid movement in any direction.

Trees in Stage 4

Do not attempt to fell trees over 10cm in diameter in stage 4. The total lack of strength in the stem or branch wood will place any operator in immediate danger.

Refer to the hierarchy of control and seek mechanical solutions or simply leave standing.