

# Herbicide damage to sugar beet

*Herbicides play a vital role in arable farming but can adversely affect growth if used incorrectly. Damage to sugar beet may occur through **direct applications** (e.g. tank contaminations, spray drift from neighbouring crops) or from **herbicide residues** in the soil (usually as a result of allowing inadequate time after applying a herbicide in the previous crop)*

Diagnosing damage by herbicide can be difficult, for several reasons

- the symptoms are so variable
- for many herbicides, the effects on sugar beet in a particular situation are totally unknown
- there is rarely any definite proof (e.g. an empty can of the wrong herbicide)
- if human error is involved the person concerned may be unaware of his / her mistake or unwilling to confess any useful information

**Spray tank contaminations** are a common cause of damage. Usually the wrong herbicide is in the tank due to inadequate washing of the spray equipment - just small amounts of some herbicides can cause serious damage. Growers and spray operators should ensure that spray equipment is washed thoroughly.

Occasionally damage occurs because the wrong herbicide has been added to the tank. In such cases, the effect on the beet may be catastrophic.



Result of suspected tank contamination (unknown herbicide)



Glyphosate spray drift

**Spray drift** damage is often easy to diagnose, due to the pattern of damage in the crop, although it may not be obvious which herbicide has caused the damage. Effects vary, depending on the herbicide



Damage by sulphonyl urea residue

Damage by **herbicide residues** in the soil can occasionally be quite pronounced, with plants markedly discoloured or deformed. But often it is more subtle, with affected plants simply growing less vigorously.

Diagnosis usually involves searching for a pattern to the damage and relating this to spray operations or soil cultivations (which may have brought a residue closer to the surface in some parts of the field)



Damage by sulphonyl urea residue