



Over-wintered stubbles and Spring Cereals



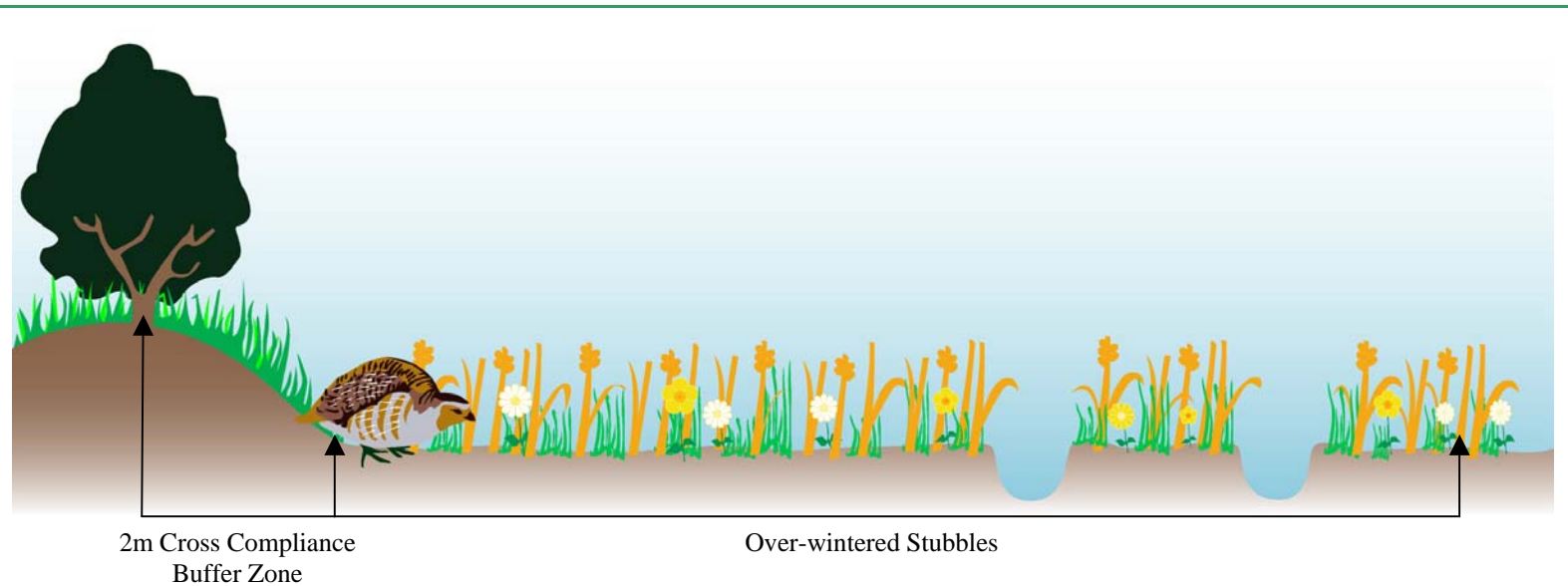
PLANTLIFE

EF6 Over-wintered stubbles (120 points/ha)

EG4 Cereals for whole crop silage followed by over-wintered stubbles (230 points/ha)

HF15 Reduced herbicide, cereal crop management preceding over-wintered stubble and a spring crop (£195/ha)

HG7 Low input spring cereal to retain or re-create an arable mosaic (£250/ha)



Value to plants & other wildlife

- Over-wintered stubble is valuable for arable plants as it provides the opportunity for late flowering species to set seed. Also the light cultivation after harvest allows autumn germinating plants to flourish.
- Following the winter stubble with a spring crop is ideal for spring germinating arable plants. Spring crops are also generally better for arable plants, particularly spring barley, as they are far less intensively grown crop with reduced nitrogen requirement, and there is only one window for herbicide application.
- Preceding the stubble with a low input crop means greater populations of broadleaved weeds will occur. Weedy stubble is of greater food value for birds and mammals that rely on the split grains and weed seeds for winter food.

Details of ELS/HLS options (as stated in RDS handbooks)

EF6: Over-wintered stubbles (120 points/ha)

- Bale or chop and spread straw after harvest
- A light surface cultivation to encourage weed germination and loosen any surface compaction or capping is allowed before the end of September, or within the first month following harvest. If it is later than September then do not cultivate.
- No pre-harvest desiccants or post harvest herbicides can be applied
- Do not apply any pesticides, fertilisers, manure or lime to the stubble
- Do not disturb the ground by topping or grazing
- The stubble must be followed by a spring crop
- This is a rotational option.

EG4: Cereals for whole crop silage followed by over-wintered stubbles (230 points/ha)

- Sow a cereal (but not maize) in the autumn or spring
- Harvest as whole crop silage
- Do not apply insecticides between 15 March and harvest date
- The following herbicides can be applied to control problem grass and broadleaved weeds:
 - Broadleaved weeds (Cleavers) – amidosulfuron (only between 1 February and 31 March)
 - Grass weeds, only the following active ingredients: tri-allate, fenoxaprop-P-ethyl, dicloflop-methyl + fenoxaprop-P-ethyl, tralkoxydim or clodinafop-propargyl.
- There are no restrictions on the use of fungicides or growth regulators
- Retain stubble until at least 15 February in the following year and follow with a spring sown crop
- No more than 5 ha of this option may be included in your application
- This is a rotational option

HG7: Low input spring cereal to retain or re-create an arable mosaic (£250/ha)

- There is potential with this option to design a management programme with your RDS Advisor that will both fit in with the farming system and satisfy the needs for targeted arable plant species.
- The key aspects it should include are:
 - Establishing a spring crop at a specified seed rate of not more than 100 kg/ha
 - Follow a restricted herbicide and fertiliser programme
 - Do not harvest the crop before 31 July
- This option will be particularly favoured in areas where spring crops were traditionally grown but have now declined, because it allows the mosaic of cropping, stubble, fallow and ley to be recreated, which is of great importance to farmland birds and other wildlife.
- The option also provides an opportunity for ley establishment by under sowing with a grass/legume mixture. This does not suit arable plants, as they will have to compete.
- This is a rotational option

HF15: Reduced herbicide, cereal crop management preceding over-wintered stubble and a spring crop (£195/ha)

- This option allows arable plants to flourish and set seed in the crop, and then allows autumn germinating species to establish in the winter stubble. Spring germinating species will benefit from the spring cultivations that follow.
- The management includes cultivating and sowing a cereal crop as usual (either spring or winter, spring barley is the ideal

	<p>followed by winter barley).</p> <ul style="list-style-type: none"> - A restricted herbicide programme is implemented. - The use of insecticides should be avoided after 15 March to protect the beneficial insects that are attracted to the arable plants. These insects are both a food source for birds and mammals but can also help protect the crop by controlling aphids. - Fungicides may be applied as required. - The cereal crop should be harvested without the use of a pre-harvest desiccant. - A light cultivation is permitted following harvest to prevent increased run-off and erosion. The soil disturbance will also help with the autumn germination of arable plants. - The stubble should then be maintained without the use of pesticides, fertiliser, manures or lime until the following spring (or at least until 14 February). - This is a rotational option
<p>Location of option on the farm</p>	<ul style="list-style-type: none"> - If rare arable plants, particularly spring germinating species have already been identified on farm then the spring crop/winter stubble should be located accordingly. Providing the most benefit to the species identified as often as possible in the rotation. - If rare arable plants have not been identified but a good variation of broadleaved plants occurs this is a good indication rarer species could appear if given the right conditions, and the spring crops/over-winter stubbles should be located in these areas - Characteristic indicator species of a potentially rich arable flora: on sandy soils - Thyme-leaved Sandwort, Corn Spurrey, Purple Viper's-bugloss, Common Stork's-bill and Loose Silky-bent; on chalky soils - Venus's-looking-glass, Small Toadflax, Fluellen's and Dwarf Spurge. - Locations with scarce species present, such as Prickly Poppy, Dense Silky-bent, Pheasant's-eye or Shepherd's Needle, are especially suitable areas for conservation headlands. - Other considerations (where there isn't an already identified arable flora): <ul style="list-style-type: none"> o Sunny south facing aspect o Light, well drained, low fertility sandy or chalky soil o No significant weed burden (particularly problem species that are pernicious and difficult to control without herbicides e.g. Cleavers, Creeping thistles, Black-grass and Barren Brome) or herbicide resistance problems. o Sites that have a long history of cultivation (over 100 years) are more likely to have the rarer arable species still residing in the seed bank. o Try not to locate options on: land that has received overly heavy applications of herbicides or fertilisers (including manure); fields that have been heavily cropped with legumes or sugar beet; or directly after a break crop as soil fertility will be higher. Volunteers can also be a problem following a non-cereal break crop (beans, OSR, sugar beet. potatoes). o There may be added value to mammals and birds particularly grey partridge if these options are sited in fields with existing grass margins, banks and hedgerows as they provide suitable nesting cover.
<p>Working with farming systems</p>	<ul style="list-style-type: none"> - Modern spring barley crops yield far better than in the past, and can therefore gain a good margin with their reduced input requirement. - Having a good proportion of spring cropping in the rotation is useful 'cultural' weed control, the changes in cultivation timing and depth is particularly good at controlling grass weeds. - Having a mix of spring and autumn crops also helps widen the window for harvest and cultivation, spreading the labour

	<p>and machinery demands.</p> <ul style="list-style-type: none"> - Stubble following a cereal crop is generally better than following field beans, linseed or oilseed rape, as soil fertility will be lower. There will also have been a greater build up of plants during the cropping period. - The ability to rotate the stubble/spring cropping makes the options very flexible. - If an autumn germinating target species has been identified on the farm it would still be good practice to rotate the sites with spring cropping. The ability of plants to sit dormant in the seed bank means that as long as the favourable conditions are provided for at least 2 in every 5 years the species will still be conserved.
<p>Possible problems and how to resolve them</p>	<ul style="list-style-type: none"> - There are rarely any problems with over-wintered stubble as there is no crop to threaten. It is important any necessary cultivation or sub soiling is completed after harvest to remove compaction of tramlines and loosen the surface reducing the risk of run-off and erosion. - If vegetation has got very tall or rank it can be topped before cultivation.
<p>Value of arable plants to the farmer and what to do with them</p>	<ul style="list-style-type: none"> - A species rich arable flora needs to be welcomed in a sustainable farming system, it provides the foundations of a bio-diverse farming environment rich in plants, insects, birds and mammals. - The identification of UK Biodiversity Action Plan (BAP) species will help you get into Higher Level Stewardship as this satisfies a primary target on most JCA Target Statements. - Arable plants provide a food source for insects, birds and mammals, they also have strong historic and cultural importance, with species like Cornflower and Corn Marigold being perennial favourites. - Plantlife are keen to record all sites where rare species of arable plants are identified. There is a real need for good baseline information on the distribution and occurrence of less common species coupled with monitoring to determine the effectiveness of all attempts to conserve them. - Plantlife are running an arable plants survey to identify important sites with either single very rare species or good assemblages of more common plants. If you think you have rare arable flora on you farm do contact us as we should be able to arrange a survey: kate.still@plantlife.org.uk Tel: 01722 342741

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