

Red clover – a new look at an old crop

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Red clover has been grown alone or with grass for centuries, and occurs naturally in many old permanent swards across the country. In the past, it was considered a short-lived perennial forage legume that could be highly productive for two to three years, and its upright growth habit made it particularly suited for hay and silage-making.

Its use declined in recent decades mainly because it did not fit in with streamlined systems of livestock farming common today that are based on long-term pastures receiving inputs of synthetic bagged nitrogen (N) fertiliser. But, in recent years, it has received renewed interest, especially among arable and organic farmers.

How to use red clover

- Red clover is an upright growing crop, which is normally cut three to four times per year. Its main role is for silage production and soil fertility building in arable/horticulture farms, although it is often grazed by cattle or sheep after the final silage cut in the autumn.

- The best establishment method is through a full reseed rather than broadcasting with the red clover generally making up 25% to 50% of the seed weight in the mixture. Successful mixtures used by Teagasc include 10kg/ha perennial ryegrass and 10kg/ha red clover, giving very good silage yields for up to six years in research trials.

- Red clover will not persist if continuously grazed or cut more frequently than every 30 days due to a combination of excessive foliage removal and plant crown damage by hoof trampling. The supply of adequate nutrients especially phosphorus (P) and potassium (K) and a target soil pH of 6.0-6.5 is key to a high-yielding persistent crop.

Advantages of red clover

- **Nitrogen fixation:** Red clover is a homegrown fertiliser factory. An annual nitrogen fixation of approximately 200kg/ha is achievable from a well-established swards with a high red clover content. This is the equivalent of six bags of CAN (17% N /acre/year).

- **High yields:** Red clover is high yielding with yields of 12t to 15t DM/ha achievable when grown with ryegrass.

- **Feed value:** Teagasc research shows that the feeding value of red clover silage is higher than grass silage, resulting in greater animal intakes and higher levels of animal performance in terms of milk and liveweight gain. It has a high protein content of 16 to 20%.

- **Break crop:** Red clover is suitable as a break crop to improve soil structure and fertility and as a supplier of organic matter. It can also be used as a green manure crop.

- **Organic production:** Red clover is a key conservation and fertility building crop for organic farmers.

Challenges with red clover

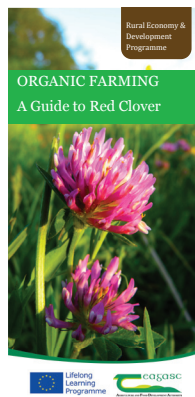
- **Persistency:** Relatively poor persistency v perennial ryegrass. Red clover crops at farm level normally persist for three to four years.

- **Versatility:** Suited to silage rather than grazing due to its upright growth habit and the risk of crown damage by grazing.

- **Oestrogenic compounds:** Red clover can contain up to 1% of oestrogenic compounds. Oestrogen levels can lower ewe fertility. In grazed red clover swards, these can temporarily affect ewe fertility so ewes at mating should not be allowed to graze red clover.

- **Ensilability:** The crop requires an adequate wilt (24 to 48 hours) or an additive to reduce the risk of poor ensilability.

- **Pests and diseases:** The crop may be susceptible to pests and diseases. Thus, it is recommended that there should be a six-year gap between red clover crops.



For more information on red clover and organic farming, visit www.teagasc.ie/organics



FARMER EXPERIENCE

Ken Gill, Clonbollogue, Co Offaly

Organic suckler beef farmer

Ken Gill, is a suckler-to-beef farmer in Clonbollogue, Co Offaly, and made the move into organic farming in 2013. While many would believe organic farms to be lowly stocked and return low levels of output, Ken has a stocking rate of 1.6 LU/ha. He has a 63 suckler cow herd, bringing all followers to finish on 87ha and he succeeds in achieving a premium of approximately 20% over conventional prices by supplying all finished cattle into the organic beef market. Key to achieving this level of performance has been his use of red clover to make high-quality silage. Ken first introduced a red clover – ryegrass sward in 2014, carrying out a full re-seed on 11ha. So happy was he with the crop that he sowed another 7ha on a separate part of the farm earlier this year. The plan is to always have around 15ha per year rotated around the farm with the possibility of sowing an organic cereal crop or a new grass - white-clover ley to replace the red clover after three to four years of cropping.

"For me, red clover is the best kept secret in organic farming," says Ken. "Last winter, I had plenty of good quality feed for my cattle and the clover supplies me with nitrogen for free. My cattle love eating it and the liveweight gains over the winter are in excess of what they were on silage alone when I was a conventional farmer."

An important challenge in Ken's experience is supplying the red clover with the required nutrients – phosphorus (P) and potassium (K) in an organic system. He does this by applying slurry, dung and imported dairy sludge, according to soil sample results. In addition, organically certified mineral fertilisers such as sulphate of potash are spread to make up the nutrient shortfall.

Another challenge is controlling weeds especially in the year of sowing the crop but Ken believes that a vigorous crop with the right amount of nutrients is key to smothering them out. To find out more about organic farming and to meet the sector experts, go to one of our 12 national organic demo farm walks between September 2016 and June 2017. See www.teagasc.ie/organic for a full list.

Ken Gill, is a suckler-to-beef farmer in Co Offaly.