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Frank Newman Turner - Father of the Herbal Ley



If there is one man who has inspired and influenced the work of Cotswold Seeds and guided our product development its Frank Newman Turner, a pioneering farmer and author who believed in 'health from the soil up'. His books include, 'Fertility Pastures', 'Herdsman' and 'Fertility Farming', as well as numerous articles and magazine publications in the 'Farmer's Weekly' and 'Stock Breeder'. His writings give guidance from his own experience of the role that herbs play in preventing disease, providing year round grazing and the avoiding the need for artificial fertilisers. He believed that all these aspects can be brought together by using a complex mix of pasture grasses, herbs and legumes in a Herbal Ley. His books have became a bedrock of organic farming but it's by no means just organic producers who'll find much of interest within their pages. We feature details of Turner's work in our Cotswold Seed's catalogue because in recent years the practices that he advocated so highly, in particular the use of Herbal Leys, have rightly received widespread attention from conventional dairy, beef and sheep enterprises too.

Turner was born in 1913, the eldest son of a family of tenant farmers in Barnsley Yorkshire. After graduating in agriculture and dairying at Leeds University, he became an inspector for the potato marketing board and went on to found 'The Farmer' a quarterly magazine 'published and edited from the farm'.

After marrying in 1939, the family moved with their newly born son Rodger, to the Chilton Polden Hills in Somerset, where Turner took over the management of Goosegreen Farm, here he experimented with farming methods inspired by the writings of Sir Albert Howard, an early advocate of environmental and wildlife awareness in farming.

Turner came to believe that fertility lay in the subsoil and is best maintained by minimal disturbance by machinery. This resulted in the traditional plough almost becoming redundant, unless he was breaking up an old ley and needed to bury turf. Deep rooting herbal leys with no chemical inputs formed the basis of his grassland pastures for his pedigree Jersey cattle.

In his trilogy of farming books, written from 1952 to 1957, Turner described the Herbal Ley as his 'fertiliser, merchant, food manufacturer and vet all in one'. In 'Fertility Pastures' he details his methods of intensive pasture based production for both beef and dairy. He explains how he developed a complex mixture of pasture grasses, legumes and herbs, which were specifically chosen to perform essential functions like providing nutrients and a balanced diet, or enhancing the fertility and structure of the soil. He also explains how he bypassed the need for artificial fertilisers by 'feeding' the leys with its own vegetation and farmyard manure.

A Herbal Ley, such as Cotswold Seeds Herbal Grazing Leys, could contain up to seventeen species with varying growth patterns and properties to produce a well-balanced forage instead of just large volumes of grass. The inclusion of forage herbs and deep-rooting species provide early and late growth, thereby flattening the peak of the forage production curve and extending the grazing season. For instance, cocksfoot provides grazing and fresh growth in the summer months, when pure ryegrass stands are at their least productive. Perennial ryegrass is useful in a Herbal Ley as the longest lasting of the ryegrass species, providing bulk in the early to late spring. This can be complemented with

other species such as timothy and meadow fescue which continue to provide grazing in the summer months and autumn when the ryegrass has begun to fade.

If Herbal Leys are grown for at least four years, the complex root structures have the added benefit of improving the soil structure and increasing organic matter. This in turn increases the quality of the soil and improves the ability to deal more effectively with heavy rainfall and drought.

The deep-rooting mix of species in a Herbal Ley further enhance the ability to withstand dry conditions. Tall fescue and smooth stalked meadow grass both grow well in dry conditions.

The roots are also an important source of nutrients, deeply penetrating the subsoil and bringing up nutrients and making them available to the grazing livestock. Burnet, ribgrass and chicory all behave in this manner, the latter being known to have roots which grow to a depth of three metres. The variation in the length of plant roots also helps to condition the soil. This is done by breaking up compacted pans, and providing pores for water, air and earthworms to move around in.

Forage herbs are also rich in nutrients, providing the animal with a healthy, well-balanced diet. Chicory is naturally high in several vitamins, yarrow is high in protein and sheep's parsley is rich in iron. Chicory and other species, notably sainfoin, have anthelmintic properties, helping to reduce worms in the animal. In turn legumes, including trefoil, lucerne, sainfoin and clover, are part of the Herbal Ley because they are high in protein, indeed they offer the cheapest way to provide a source of protein to stock, reducing the need to buy in costly concentrated inputs such as soya.

Legumes also provide a natural source of nitrogen for the ley which is essential for growth and development. This is done through nodules on the plant roots, releasing nitrogen into the soil from the atmosphere, when soils are above 8°c.

The availability of cheap nitrogen fertiliser and imported Soya from the 1960's onwards meant that large bulky yields could be achieved from ryegrass monoculture swards that were fed from the top down with artificial nitrogen. Because of the absence of clover, these crops were relatively easy to manage, especially with the availability of herbicide chemistry to control weeds. Many conventional systems relied on ryegrass only leys, because of the simpler management implications. But Turner disapproved of this, explaining how 'in the majority of leys the ingredients are planned exclusively for their potential bulk yield above ground, with little thought for the activity below ground.'

It has been demonstrated that multi-species mixes can exhibit an 'over-yielding' effect. In a 'monoculture' or simple mixture, plants compete for the same resources because they have the same physiology, root structures and nutritional requirements. But, by using a range of species, trials have proven that up to 50% higher yields can be achieved than would be expected.

Also, when sowing a mixture containing many species, you may think that weeds are bound to become a problem due to the diverse nature of the mix. Actually the opposite is true. Using a wide range of species fills-in the sward, ensuring that little space remains for weeds to take hold.

At Cotswold Seeds we are seeing a renewed interest in the wide ranging benefits associated with the Herbal Ley to support a range of stock including dairy or beef animals and sheep. This is partly due to the high prices of artificial fertilisers mineral concentrates, like soya, but it's also for the myriad of other benefits. We are seeing legumes included to provide nitrogen in arable break crops, fruit orchards and grass and clover leys for grazing, as well as the use of anthelmintic crops like sainfoin and chicory to fatten stock and reduce the reliance on wormers. In addition, we have seen herbal leys used for extensive sheep grazing at high altitude on thin upland soils as well as for mob grazing paddock systems on cattle farms.

No wonder then, that Acres U.S.A, a publisher specialising in sustainable farming, has been working with Frank Newman Turner's descendants to bring all his books back into print. We are pleased to say that they are now available from distributors in the UK, as well as Amazon UK and The Book Depository.

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