



GORSE AND THE SCIENCE

So gorse is a shrub. It's in the pea family and the pea family are typically shrubs of about four to eight meters high. Gorse itself can only grow two to three meters high depending on soil types but it gets to much bigger sizes on fertile soils.

One of its real tricks is that it fixes nitrogen from the atmosphere, so what that means is, it fertilizes the soil. Its ability to grow its own food means that it basically pumps up its own growth at the expense of all other species.

Like most peas they're hard seeded, and as a consequence the seeds persist in the soil for something like thirty years. Dispersion of seeds is the starting point for all invasions of gorse and you only need a few individuals. They start flowering within eighteen months of germination and by seven years they reach a size of potentially two meters in height. As a consequence there's a lot of seedlings produced, the gorse plants start filling the gaps around existing plants.

Typically, gorse like plants require fire to stimulate their germination. They need the soil to be heated by the temperature of the fire. Gorse doesn't quite need that level of heat to germinate. So in bare soil on a hot day the temperature can easily exceed sixty-five degrees, sometimes they even get to eighty, and that enough to stimulate the germination of gorse, from just hot summer weather.

The gorse seeds that you typically find in dense populations will be in the top eight centimetres of the soil. Most of them are located within the top three centimetres. They worked their way through soil cracks and get down just below the soil surface. This is an issue. If you plow up a paddock full of gorse, you might think you're doing the right thing but what you're potentially doing is bringing seeds at some depth in the soil back up to the surface.

Scientifically, the best way to stop the spread of these species is to prevent flowering, because flowers lead to seeds, seeds lead to this three decade long problem. If you have gorse, stop it flowering. Stop it getting to the age where it can flower, that critical three year period. The other thing that you might think about is spraying. Spraying can be useful not necessarily in terms of killing the plant but stopping seed development in any particular year. Your aim would be to kill the plants, but if you stop seed input, you're stopping hundreds of thousands of seeds from entering the soil and potentially that long term management issue.