

How do polyculture cover crops in agriculture compare to monocultures?

Planting cover crop mixtures is very popular right now. The practice has a feel-good aspect about it and, buoyed by the ecological theory, it fits with the current “mimic nature” strategy of agroecologists. In [Mixing the Perfect Cover Crop Cocktail](#) I demonstrated how difficult it is to do research on cover crop mixtures. Although difficult, there are intrepid researchers investigating this practice so I decided to see what they were finding. The results call into question the value of cover crop mixtures, as in many situations a [monoculture](#) cover crop would both produce more biomass and provide other desired services as well.

My post [Ecological Theories, Meta-Analysis, and the Benefits of Monocultures](#) is related: I showed that the hypothesis that diverse [polycultures](#) exhibit transgressive overyielding, is not supported by research results (i.e., polyculture yields do not exceed yields of their best yielding component when it is grown in monoculture). But does this apply to cover crops? Might polyculture cover crops give some benefit over monocultures? For if an agricultural practice exists that is well-suited to mimicking nature, it is a cover crop, which is not harvested like a food crop, and thus is easier to manage as a mixture. Cover crops are planted specifically to provide what are now called ecosystem services; benefits like suppressing weeds, recycling nutrients, and supplying nitrogen.

The above is part one from a two-part series found at Biology Fortified. Read more at [“Monoculture vs polyculture part I.”](#)

Cover crop mixtures, known as “cocktails” by some, are being promoted as having benefits over cover crops planted as monocultures. As I described in [Part I](#), I reviewed recent research results to get at the answer to the question, “are monocultures or polycultures better when it comes to cover crops?” I found that, for biomass production at least, monocultures were actually best. Now, let’s look at other services provided by cover crops and compare polycultures and monocultures.

The above is part one from a two-part series found at Biology Fortified. Read more of [“Monoculture vs polyculture part II.”](#)

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis. Read full, original posts: [Monoculture vs. Polyculture Part I](#) – and – [Monoculture vs. Polyculture Part II](#)