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Year in review

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By Alex Féthière



After seeding and thinning, this beet took no care besides automatic watering and weekly showers in compost tea. (*Alex Féthière*)

Root vegetables are a favored foodstuff in my gardens. The satisfying expansiveness of grain without its digestive challenges is reason enough, and the enhanced storage life is a bonus.

Until this year I hadn't been able to grow conventional root vegetables like beets and carrots. Scorzonera, salsify, yacón and so on - no problem. Whether on Long or Harstine Islands, my soil had never the tilth for more conventional garden fare.

In Long Island I was growing vegetables in rehabilitated lawn sod. Over many years I lightened it enough to grow anything but beets and carrots, so I figured the problem was my soil foundation.

On Harstine I assumed that good trucked-in soil filling raised beds would solve all my problems, but it didn't. The beets never bulked up, just like they hadn't in Long Island, and the carrot seedlings were killed by slugs before their second set of leaves.

Last year I wrote in this column about mulching with dead maple leaves in my raised beds. I wanted to cover my raised beds and rows against the rain, to prevent the leaching away of nutrients and the crusting of soil that can result from salts precipitating to the surface after months of rain.

I knew that maple-leaf mulch would increase the calcium and magnesium content of the soil, but I didn't understand how. What kept it from washing away like the dolomitic lime of which farmers use so much?

On rare occasions I had grown a beet the size of a thumb. Why, then, did it push itself out of the soil, exposing a top that was immediately grazed by slugs?

The results from this year's raised beds may suggest answers to these questions. The leaf mulch broke down beautifully and aerated the soil, lightening it in time for the beets to swell sideways as well as up. This was otherwise the same 60 manure/20 local peat/20 sand mixture I had used for years, doubtless a little poorer from sitting under a tarp for 18 months.

Yet that was only part of the explanation. Throughout last summer I religiously applied homemade compost tea to all parts of my trees, perennials and annuals.

Recent discoveries suggest that these two practices acted in tandem to improve my soils. They yielded so much more of everything that I was able to fallow $\frac{3}{4}$ of the garden space and concentrate only on nine beds, a hill and a hugelmound.

Not everything could be attributed to leaf mulch and compost tea, however: I was killing slugs in droves in February. By the time the carrot seedlings were emerging, slug predators like garter snakes and beetles had set up camp and ran the show thenceforth. Likely the compost tea helped my beets and carrots defend themselves better, and inoculated the soil with beneficial microorganisms that ate slug-enticing decomposing soil components. (Many of these emanate alcohol, which attracts slugs - as any beer trap will show.)

I didn't fully understand what the compost tea was doing, only that diseases and malnourishment all but disappeared and weeds became a distant memory. I also was not aware that dead leaves, a feast for fungal soil food web allies, were supplying calcium that the fungi crystallized along their hyphae (root-like network strands) so that none of it could be washed away.

These fungi may have come from my compost tea dosings, or they may have been inoculated into the dead leaves from the forest floor and expanded with compost tea stimulation. Given these exciting results, I wanted to get into greater detail.

Soil scientist Dr. Elaine Ingham's Soil Food Web School has been on my radar for a long time. I've heard praises from acquaintances and at permaculture convergences.

Her course is the best direct way I could find to understand the taxonomy of soil microorganisms and their functions while tabulating and influencing their populations. It will be a great way to spend a wet cold winter, curled up against the dark with dreams of a teeming soil.

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