Stinging Nettles and Wearable AC

Dawn Danby
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One way of reducing energy use in a building involves keeping heating and cooling localized to your body. So through Texas summers I fantasized about wearable air conditioning. Based on US military technology, Grado Zero Espace has developed it (for the common household problem of sun exposure in open space). Their impressive range of wearable technologies includes a jacket insulated with AeroGel, fabrics woven from titanium, and others coated with liquid ceramic. (They're not modest: "Corpo Nove is the first fashion company to use Aerogel in clothing and the only one that knows enough about it to put it into a jacket.")

I'm partial to the textile woven from stinging nettle fibres, also from Grado Zero Espace as an initiative of the Eden Project in Cornwall. Nettle fibre had previously been used to clothe Napoleon's Armada and was reintroduced during cotton shortages during both world wars:

"The fibres of the stinging nettle have a special characteristic in the fact that they are hollow which means they can accumulate air inside thus creating a natural insulation. To create a cool fibre for Summer the yarn lengths are twisted closing the hollow core and reducing insulation. In Winter with a low twist the hollow fibre remains open maintaining a constant temperature.

"Existing problems in the agricultural sector such as overproduction in the dairy industry, over-fertilisation of the soil, problems due to monocultures as well as the lack of financial opportunities underline the need for alternative crops. The stinging nettle is a perennial plant which thrives on nitrogenous and over-fertilised soil, making it a very interesting alternative that would add a completely new aspect to agriculture in central Europe."

http://www.worldchanging.com/archives/000121.html