Yellow Light of Caution

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Fallow wasteland, seemingly worthless for agriculture, may in fact be of great natural value. We need to be very cautious when using it for cultivating energy plants

Energy plant cultivation seems to offer an ideal solution to the problem of alternative energy sources. Although cost-effective and ecologically "clean" in theory, it turns out to be controversial in practice. For instance, energy plant cultivation will not significantly alter the structure of energy production on a national scale in Poland, since the country lacks logistic solutions enabling energy plants to make a significant "energy contribution" to large power stations.

Unfortunately, there are also serious doubts of an ecological nature. Energy plants are most often cultivated on land where growing other plants is unprofitable. Though this provides a great alternative for farmers, some wasteland is in fact incredibly precious for nature and using it for cultivating energy plants may endanger the species living not only in the cultivation area itself, but also in its vicinity. Another problem rarely raised in the energy plant debate is the fact that some of them are species alien to the indigenous flora. Yet it has been proved that the threat to nature posed by alien species is globally almost as significant as that caused by climatic change. By using alien plant species to reduce climatic warming, therefore, we run a greater risk of escalating the similarly dangerous problem of biological invasions.

This risk should be taken into consideration in Poland as well. The country has a short history of cultivating energy plants, and scientific research focuses mostly on the profitability of their production rather than potential threats to nature. In most cases, there have so far been no investigations into whether energy plant species "escape" from their cultivation areas and colonize natural or semi-natural habitats. Most frequently, we do not know whether these plants can successfully compete with indigenous species, although there are some infamous exceptions which have been thoroughly studied in this respect. For instance, in most European countries knotweeds (*Reynoutria*) and hogweeds (*Heracleum*) are rightfully reputed as being very invasive species. Moreover, they are harmful economically (as troublesome weeds) and even pose a human health hazard (hogweeds can cause burns). Large sums of money, including EU funds, are spent on programs to fight them, and in some countries their cultivation is outlawed as a punishable crime. Popularizing these species in Poland would thus be absurd.

The notion of cultivating other alien species as energy plants needs to be approached cautiously, as always in the field of nature conservation. This is especially true for species such as virginia fanpetals (*Sida hermaphrodita*), miscanthus (*Miscanthus spp.*) and prairie cordgrass (*Spartina pectinata*). In America, cultivation of *Miscanthus saccharifolius* led it to become recognized as "an invasive and dangerous weed." Consequently, there is an urgent need for research into the potential threats resulting from the cultivation of alien species. Until reliable results are obtained, we should refrain from cultivating them in or near areas of natural value. ■

Further reading:

http://wssa.net/WSSA/SciPolicy/GISP%20biofuels%20062707.pdf

Erv Evans, NC State University

This beautiful prairie cordgrass, cultivated as energy plant, may pose a threat to the indigenous flora