

## The Oil Drum: Campfire

### Discussions about Energy and Our Future

#### Where will our staple foods come from?

Posted by [Gail the Actuary](#) on February 11, 2010 - 7:06am in [The Oil Drum: Campfire](#)

Topic: [Environment/Sustainability](#)

It seems like discussions of gardening are often focused on growing fruits and vegetables. The question that comes to me is, "What do we do about staple carbohydrate foods?" like wheat or corn (maize) or potatoes. These foods are ones that store well, and supply a large portion of the calories of the diets of most people around the world. In the US, wheat has tended to be a staple, but it is not easy for a home gardener to grow, and it requires processing that is more easily done by commercial equipment. So the question I have is, "How should we plan to get our staple carbohydrate foods going forward?"

I can think of several answers:

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1. Large commercial farms growing grains may continue as before, since commercial farming is so efficient. With a little planning, perhaps we will be able to continue this function on a BAU basis, even if everything else falls apart.
2. Growing of grains can be done in the future by farmers closer to where the grain would be used. This could be done:
  - a. Using organic gardening, but with oil powered farm equipment, diesel irrigation pumps, electric milling, and transportation to market using diesel powered trucks.
  - b. Using organic gardening, local wind or solar generated electricity, farming equipment and milling equipment powered by electricity and transportation powered by electricity.
  - c. Using organic gardening, with animal powered farm equipment and transportation, and water powered milling.
3. Each homeowner should grow his or her own grains, using petroleum powered tools if they are available, or hand powered tools otherwise.
4. Homeowners who want to be sure of a continuous supply of food should plan to grow one or more staple foods that grow in their own area, that are not too difficult to grow. These might be white potatoes or sweet potatoes or corn (maize), or one of many other crops, varying by growing area. If root vegetables are grown, some method of storing them will be needed.

#### Which options are really feasible, and for how long?

We all have our own opinions as to how long Option 1 (BAU) might be feasible. Theoretically, the use of biofuels, if deployed especially for food production and transportation, could extend the feasibility of Option 1. The feasibility of Option 1 might also be extended by reducing the number of animals raised for food, so more cropland will be available for human food use, or for biofuels.

My impression is that Option 2a (Organic local farming using oil for equipment, transport) is a

popular option with some sustainability groups. It certainly has some advantages, in terms of helping maintain soil fertility, better quality food, and reduction in fertilizer need. Option 2a would seem to be subject to some of the same kinds of disruptions as Option 1, though. It would need passable roads; availability of petroleum powered equipment; a functioning electrical system; a marketplace that supplies gasoline and diesel, although perhaps at a high price. It might work, if our primary issue is conserving fossil fuels. It would save some oil, but I have not seen calculations of the amount.

Option 2b (Farms with electric equipment and electric transportation to market) doesn't seem like a real option today. At this point, I don't see the "renewables" as having much applicability to growing more food, unless they are used for mundane uses like pumping water and milling grains. Wind might also be used to create nitrogen fertilizer.

Option 2c (Farms with draft animals) might work, but it would require a lot of planning. Someone would need to raise and train draft animals. Farmers would need to buy up large tracts of land that they could farm with animal powered equipment. Appropriate crops for crop rotation would need to be intermixed, to maintain soil fertility. Even if some entrepreneurs wanted to start farms of this sort, lack of capital would likely be an issue. If we need Option 2c, it seems like we would need to start working on it in several years in advance. Option 2c would at least provide some economies of scale and some leverage of animal labor, so from that point of view would seem to be preferable to Options 3 and 4.

Option 3 (Home grown grain) might almost work--but most homeowners don't have room to grow grains. Harvesting and milling would be an issue. Hand mills would sort of work, but aren't very efficient.

Option 4 (Home grown alternate crop) seems like it might work, if there is an alternate staple crop that would work well--root vegetables might be easier to deal with in some parts of the world, or could be used to supplement other crops. Adequate growing space would likely be an issue, as with Option 3.

## What do readers think?

It seems like having adequate staple foods is critical to keeping an adequate food supply. What thoughts have you had about this issue?

Have you tried growing grains? How about other staple crops? Are there any you would particularly recommend for growing at home?

It seems like there are economies of scale with growing staples (and almost anything else). What size farm would be optimal in a post-peak economy?

Is there a way land ownership could be transitioned to allow adequate production of staple foods?

Which of my options do you see as most likely?



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