

Richmond Review Article – Mad Max, the Seed Warrior

By Stephen C. Mullins

A new Mad Max movie is premiering next year, a reboot of the hit movie series from the early 1980s. In the movies, regular guy Max Rockatansky is gradually transformed into Mad Max, the Road Warrior, by the hardships he faces in the post-apocalyptic landscape of Australia.

Many people love post-apocalyptic stories. I know I do. It's fascinating to see how people like Max adapt and even thrive in the harsh conditions of the new world, where everyday objects like books, bullets and even bottle caps can suddenly become very important. Oddly, people rarely seem to covet the one thing that would probably be the most essential to re-establishing a normal, flourishing society - high quality seeds.

Without good seed stock, it is extremely difficult to maintain the food production levels that make our modern technological society possible. Everyone involved in agriculture, from the largest agribusiness like Monsanto or Syngenta, right down to local community non-profit groups like the Richmond Food Security Society, seems to agree on this, but from there, it gets...complicated.

That's because not all seeds are created equally. Created is the key word here, because almost all of our crops come from hybrid seeds. For centuries, people have been cross breeding compatible plants to create crops that are more robust, tasty and productive. Even genetically engineered (GM) plants are hybrids, just a special type. Instead of cross-breeding compatible plants, GM hybrids incorporate genes from entirely different types of living things, like adding bacterial or even animal DNA to a plant.

A key problem with hybrids is that they are often unstable, meaning they don't breed true (causing inconsistent yields from year to year), or they might even be sterile. Fortunately, some hybrids can stabilize over time and reliably breed true, and in fact, many of the heirloom crops that were staples of our agricultural system for centuries were created this way.

Seeds that breed true are so valuable because it means when you harvest your crops, you can save seeds from your hardiest and most productive plants to use to start next year's crop. This is Seed Saving 101, a time-honored and crucial agricultural skill farmers practiced for millennia (in fact, RFSS runs workshops on this in late summer and the fall to maintain this tradition). You can almost say that by this cycle of 'plant, grow, and save', we can "Max" out our plants, allowing them to adapt to even the harshest local conditions.

Unfortunately, this isn't how large agribusinesses do things. Seed saving doesn't fit well into the modern agribusiness model because it creates a lot of localized varieties of crops that may have variable yields, the last thing you want when you desire yields that are as uniform as anything that comes off an assembly line.

However, companies like Monsanto, Syngenta and DuPont are aware of the strengths of saved seeds. Large agribusinesses have contributed heavily to the establishment of seed banks around the world (over 1400, according to the UN's FAO), including the famous Svalbard Global Seed Vault in the far north of Norway. Seed banks like these preserve the genetic diversity of crops and provide a resource for research. Agribusinesses have heavily accessed these seed banks in their continuous research for new hybrids that can bypass the slow 'plant, grow, and save' cycle, but still be resilient and give consistent one-year yields.

But as they say "there's no substitute for experience", and yet agribusiness crops are planted with new seeds each season, creating a yearly reset that makes it more difficult to mitigate the vulnerability of

monocultures to the threats of a changing climate. To continue our Mad Max analogy, it's like each year inexperienced Max is forced to try to survive again, but facing an ever harsher world each time.

Will the research initiatives based on the vast collections of seeds in installations like the Svalbard Global Seed Vault help create a much needed blending of ancient agricultural knowledge with the new? A lot depends on how stubborn agribusinesses are in pursuing a technological fix to a problem that old-school farmers already know how to solve. Only time will tell.

But I know what I want to see come out of it. I want seeds that able to adapt, thrive and breed true in the even harshest conditions. If that means we end up with fruits and vegetables that aren't all exactly perfect in shape or colour, or bruise more easily, then so be it. Seeds are too crucial to the health of our society to risk having them fail from year to year. We need seeds that are of the Mad Max variety, and given the challenges of climate change, crop pests and blights, we need them soon.

Steve Mullins is the communications manager for Richmond Food Security Society. We work to ensure that all people in the community have access to safe, nutritious, culturally appropriate foods that strengthen our environment and society. To contribute, check out www.richmondfoodsecurity.org and find out how you can get involved.