

# Breaking the Chains of Status Quo

REVIEW

*Chasing the Red Queen: The Evolutionary Race Between Agricultural Pests and Poisons*

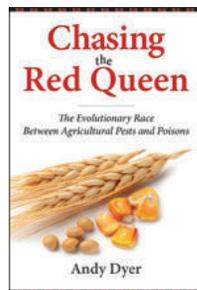
by Andy Dyer

It's not often that satirical fiction offers a nearly perfect illustration of a scientific principle. Yet Lewis Carroll pulled it off in *Through the Looking-Glass* when Alice mentions to the Red Queen that running fast generally gets you someplace, at least in Alice's experience.

"A slow sort of country!" said the Queen. 'Now, here, you see, it takes all of the running you can do to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!"

For a while, as Andy Dyer tells it, agricultural chemistry – pesticides and herbicides – were able to run fast enough to produce earth-shaking results. Their success transformed the fundamental human activity of growing food. Then they fell behind, finally leading to GMOs and the rapid adaptations of pests targeted by biotech cultivars, a turn of events Dyer calls "utterly predictable." When you're talking about the evolutionary biology of crops, weeds and insects, you're describing a zone where the Red Queen rules.

Dyer is a professor of biology, and he uses an explainer's voice throughout *Chasing the Red Queen*. An unsuspecting advocate of the agricultural status quo who attempts this book may find herself seduced by the calm clarity with which the author makes his arguments. He never hurls rhetorical bombs or hauls out the flamethrower of mockery. Like a parent telling a toddler about the dangers of hot stoves and power saws, he is gentle yet immovable. It's a fortunate strategy, pairing the reassurance of serene authority with the facts of life, because the news



Dyer brings to our hypothetical industrial ag believer is extremely bad.

For others, of course, it will not be news at all; it's the elegance of Dyer's rhetorical scaffolding that may prove startling. "Natural ecosystems are incredibly complex, and their productivity is a function of that complexity," goes one sentence so rich with implication you may want to take a few minutes, or a few days, to think about it. Better to keep reading: "In contrast, agro-ecosystems are incredibly simplified systems with one producer (the crop) and, ideally, no herbivores and therefore no need for carnivores. In fact, the farming ideal is soil and crop and no real ecosystem at all. But that ideal is 'false to facts,' because plants cannot be grown without some interaction with the environment beyond water and nutrients."

Already the foundations of industrial monocropping are crumbling like parched, drought-stricken dirt. By the time Dyer completes the story of plant and weed resistance racing ahead of chemical attempts to control them over the past 50 years, the remnants are blowing in the wind. A chapter called "The Red Queen Trumps Technology: The Failures of Biotech" does especially severe damage to the current paradigm, taking advantage of very recent research.

For reasons known only to himself, Dyer stops well short of arguing for the demise of industrial agriculture. Yet he advocates a series of changes that would render much of the system unrecognizable and reduce the profits of herbicide and pesticide manufacturers considerably. Most of these changes will be familiar to those who do argue for a total paradigm shift. There is a sense, here and in other works that hesitate on the brink, of fear before the precipice of epochal

change. None of that should stand in the way of welcoming this book and celebrating Dyer as a voice of reason.

– Chris Walters

*Chasing the Red Queen: The Evolutionary Race Between Agricultural Pests and Poisons* by Andy Dyer, 2014. Island Press. ISBN-13: 978-1610915199

REVIEW

*The Pocket Book of Weather*

by Michael Bright

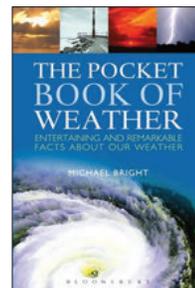
For as long as there have been people, there have undoubtedly been people who've looked skyward and wondered if they'll get wet, sweat, or need a coat. Just as it is now, their day-to-day existence was affected by weather – and because of that, early humans began to recognize trends in the atmosphere.

Today's meteorologists have a lot of information with which to prognosticate: they can tell which clouds will soak you and which will dissipate. They can track the path of a tornado or hurricane, and they can offer a hint of what your weekend will be like.

In this book, you'll learn what oktas are, and how to measure them. You'll see that "high pressure" isn't what you put on your weatherman when you want sunshine. You'll find out why you should run from a pogonip, the difference between a cyclone and a tornado, why you should take flash flood warnings *very* seriously, how hail can kill you, what snizzle is, how bugs can tell

the temperature and why you should definitely avoid being outside at 7:30 p.m. in July during a thunderstorm in central Florida.

– Terri Schlichenmeyer



*The Pocket Book of Weather* by Michael Bright, 2014. Bloomsbury USA. ISBN-13: 978-1620406243.