Grassland
Quietness and Strength for a New American Agriculture

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“Soil, air, rain, and sun supply all the essentials for the growing of a blade of grass. But they do not explain the grass.”

— Firman E. Bear, Earth: The Stuff of Life
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My father devoted much of his life to the politics of tobacco, which was the staple crop of small farmers here in Kentucky, but he was not a promoter of tobacco. What he promoted, in passionate speeches to me and others during the fifty-odd years I knew him, was grass and grazing. His reason for this was sound, and it was urgent. We lived and farmed in a landscape of slopes, varying from gentle to steep, but everywhere vulnerable to erosion. In our country, a plow quickly could become a weapon. And so the kind of farming my father subscribed to, which was fairly well established here during the years of my growing up, involved cattle, sheep, hogs, and (until the middle of the last century) work horses and mules on pasture.

And so I am—and, for all I know, genetically—a lover of grass. Or, to be more precise, I am a lover of sod, a compound organism consisting of topsoil covered by growing plants and held together by perennial roots, populated by grasses, legumes, weeds (many of which are palatable, or inoffensive, and beautiful), birds, animals, bugs, worms, and tons of invisible soil organisms. A good sod, healthy and not overgrazed, is a sponge, gathering the rain, holding it, releasing it slowly. It is kind to the land it grows on, kind to the local watershed, kind to the people and other creatures downstream. Land under a healthy, well-kept sod is safe; it will grow richer and healthier year after year; it is not going to wash away. A farmer whose fields are well sodded will wake in the night, hear the hard rain coming down, and go comfortably back to sleep.

If you are interested in flood control, as you need to be, that does not begin with levees. It begins where the falling rain strikes the earth. When the rain strikes sod, it does not loosen the soil and run off as a muddy slurry. The rain clings in droplets to the standing plants; it soaks into the thatch of dead foliage; it seeps into the open pores of the ground. It is merely a fact that sodded ground absorbs and holds more water than ground laid bare by cultivation. Of course, even ground that is well covered by grass or trees can become saturated and produce a runoff, but nature’s way, which ought to be the human way, is to retain the maximum amount of the rainfall, and then to release the surplus as slowly as possible. Thus the good health of a watershed becomes the good fortune of downstream farms and towns.

By the time I was experienced enough to understand the wisdom of my father’s advocacy of grass, I had also traveled enough to know that it applied far beyond our own countryside. I have seen...

Foreword
shocking plowland erosion here in my home neighborhood, but I have seen it just as bad in Iowa. As a rule—and this is a rule we have ignored at tremendous cost—all farmland needs to lie under perennial cover for a significant fraction of its time in use. The length of time will vary from place to place, but the need is everywhere and it cannot safely be ignored. Under sod the land restores and renews itself in ways we humans should not expect ever to understand completely. Returning cropland to grass for a year or two in every rotation should be regarded as an act of humility and courtesy toward the world, which after all, we did not make. On many farms there are places that ought to stay under perennial cover, either pasture or woodland.

I once asked a neighbor of mine, a good farmer now dead, “Do you think we can safely plow in any year as much as ten percent of this country”?

He said, “More like five.”

That answer came from serious thought, and I knew that it rested on two fundamental principles: He would not use his vulnerable land to grow grain for the market; he would grow only the grain he needed for his own livestock; when it left his place, as the saying went, “it would walk off.” And he would go from sod to sod as directly as possible, row cropping one year (benefiting from the water-holding and erosion-retarding capacities of the killed sod), following with a cover crop of small grain interseeded with grass and clover, and so back to sod again.

That man was a true farmer. He was not an industrial producer of agricultural commodities. At present, and temporarily, the so-called agricultural economy and our rural landscapes are dominated by the agri-industrialist, who stands exactly in opposition to my friend. Agri-industrialists run cotton factories or sugar factories or grain factories or meat factories or milk factories or egg factories. These factories have four outstanding characteristics:

1. They depend entirely on industrial machinery and chemicals.
2. They depend entirely on cheap fossil fuel, which is why they are temporary. While we still depend on them, they are already relics.
3. They treat organisms as machines.
4. They are highly specialized. Animal factories do not grow plants. Plant factories have no animals. Animal factories produce, in addition to meat, manure—which, far from the cropland where the feed is produced, becomes a dangerous pollutant. Plant factories, having no animals and therefore no manure and therefore lacking in health, are dependent on large quantities of chemicals, which are dangerous pollutants.

But the most dangerous pollutant issuing from the agri-industrial enterprise is the radically oversimplified agri-industrial mind. This mind assumes that it is all right to produce stuff by using up stuff, that it is all right to “externalize” all ecological and social costs, that health is never an issue except when and if regulations are enforced by government, and that all relationships and connections, causes and effects, are somebody else’s business.

True farmers, on the other hand, have minds that are complex and responsible. They understand that their fundamental resource is not acreage or capital, but a home place that is healthful and fertile. They want to conserve their land and improve it. They farm with both plants and animals. They understand and honor their debts to nature. They understand and honor their obligations to neighbors and consumers. They understand and respect the land’s need to be protected from washing. They are friends of trees and grass. Their thinking is all about conserving and connecting, husbandry and artistry.

It cannot be too much insisted on that good farming involves both plants and animals in the right relationship or balance on every farm. At present, and for understandable reasons, including the cruelties of confinement feeding and the destructive fashion of “finishing” most animals predominantly on grain, some people would like to remove animals from agriculture altogether. This “solution” is characteristic of so-called environmentalism, which has tended to operate between the poles of abuse and prohibition, overlooking entirely any middle ground of good use. But whatever the dictates of ignorant idealism, it remains true that good farming has always involved pasture, grazing animals, and animal manure for fertilization. This farming is good because it preserves the land and the people. If we want to produce food from vulnerable land without
destroying it, we must do so by growing grass on it, harvesting the grass by pasturing animals, and then eating the animals. (I only wish that the animals could be slaughtered humanely in small local facilities, which would be better for the animals, the consumers, and the rural economy than the present system.)

We still have some true farmers who have survived so far the damages and discouragements of agri-industrialism. Some of them believe, and I believe, that they have survived by remaining true to their land and their good agricultural practices. In the time that is coming, we are going to need many more such farmers than we have, and we will need them much sooner than we can expect to get them. We will get them only to the extent that young people come along who are willing to fit their farming to the nature of their farms and their home landscapes, and who recognize the paramount importance of grass and grazing animals to good farming everywhere.

The reason for this is plain. On a factory farm, nature is too likely to be an adversary of the farmer, because such a farm is too much an adversary of nature. Nature responds with diseases, weeds, pests, and gullies which, in the process of damaging or destroying the farmer, enrich the suppliers of chemicals, machinery, fuel, and credit. Only with grass, with pastures, can nature enter farming fairly dependably as an ally of the farmer. In an era of expensive fuels, nature will continue to work cheap, as she always has, for those who befriend her. Henry Besuden, the great farmer and Southdown breeder of Clark County, Kentucky, restored his inherited rundown farm with grass, and he then made good pasture the basis and standard of his farming. He wanted “a way of farming compatible with nature,” and he applied all his work and his remarkable intelligence to that end. “It’s good to have Nature working for you,” he said. “She works for a minimum wage.”

Wendell Berry
Lanes Landing Farm
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The idea for Grassland: Quietness and Strength for a New American Agriculture occurred when a small group of agronomists saw a growing need to communicate the value of grass-based agriculture in our nation’s life—to increase awareness of the vital role grass and grassland plants have in ensuring a sustainable future for America. The book takes its inspiration from the classic Grass: The 1948 Yearbook of Agriculture, which was written not only for agriculturalists but also to impact other sectors of society at a time of political, environmental, and economic turbulence, much like today. The audience for this new book includes agriculturalists, students, the public, and decision makers. The title Grassland: Quietness and Strength for a New American Agriculture makes reference to a radio speech delivered in 1940 by then Secretary of Agriculture, Henry A. Wallace (see Chapter 2).

The 1948 yearbook was published by the U.S. Department of Agriculture and articulated positive messages about grasses, grasslands, grazinglands, and forages—perennial and annual grasses and legumes so basic to the nation’s health. The yearbook is divided into four parts, progressing from the general to the more specific. As the editor of the 1948 yearbook, Alfred Stefferud, described in his preface: “First is an examination of grass as it applies to people anywhere. The emphasis is on livestock and soils and conservation. Next is a study of grass as it is used in the regions of the United States, the emphasis being on varieties and uses. The third part is a handbook that considers the nature and identification of the most important and most useful grasses, legumes, and associated plants. Finally comes a section of tables, charts, lists of plant names, recommendations of seedings and mixtures, references to further reading, and the index. The material has been put together there for economy and convenience; for many farmers and students the last part will be the most valuable of the entire volume.” The 1948 yearbook is provided on the CD that accompanies this book.

Grassland: Quietness and Strength for a New American Agriculture is arranged in three major parts. Part 1, “Past Is Prologue” (Chapters 1–3), tracks the history of grassland farming, emphasizing some of the philosophical arguments that advocate for grasslands as a vital component of an evolving American society. It highlights the voices of outstanding grassland enthusiasts and reflects on the times before and after the issuance of the 1948 yearbook. “What’s past is prologue,” says Shakespeare in The Tempest. Here we look back to something still very much alive, the publication of Grass:
The 1948 Yearbook of Agriculture, pulling from it a glimpse of that from which we have come and that on which we build for the future. In these three chapters looking even deeper into the past, we affirm the essentiality and value of grassland and aim to renew its healthy growth.

In Part 2, “The Present: Transitions over 60 Years” (Chapters 4–8), we aim to provide the reader the foundation needed to move into the future. These chapters define and describe grassland and related terminologies. They also bring us up to date regarding the rangelands of the West and details grassland’s contributions to agriculture in humid regions of the United States. This section also provides the reader with updated information on cropping systems that include perennial grasses and legumes and concludes with a comprehensive narrative on the important topic of societal amenities provided by grass.

Modern genetics and plant breeding have opened up new opportunities for grass-based agriculture. But to capitalize on these opportunities, greater investment is needed. Compared with other agricultural endeavors, grass-based agriculture has seen a lack of needed investment in the future. We must now look optimistically to renew and increase this investment, beginning with opportunities presented in the last six chapters. Part 3, “The Forward Look: Opportunities and Challenges” (Chapters 9–14), looks at the role of grass-based agriculture in maintaining the stability of rural communities. It then provides the reader with new information on the human health benefits when grasses and legumes are made a primary resource in the food chain. This section also explores how grasses and legumes can contribute to a new energy future, as well as participate in the wider world of bio-based products. Finally, given the need for greater advocacy and support for grassland agriculture, Chapter 14 examines barriers and suggests policy alternatives to encourage farmers and other landowners to make better use of this invaluable resource.

If we are learning anything in the early years of the 21st century, it is that human activities are beginning to significantly diminish the capacity of our planet to sustain life and that societies based primarily on resource extraction will not prevail. This applies to agriculture as well as to mineral and energy resources. Our hope is to foster a new paradigm within the sustainable agriculture movement, a paradigm that fulfills the vision of P. V. Cardon in the 1948 yearbook—that grassland-based agriculture can and must be a permanent component of our food system.

Walter F. Wedin and Steven L. Fales
Acknowledgments

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Just telling close associates that this book would be forthcoming, almost without exception prompted the question, “When will the book be published”? We received encouragement, enthusiastic best wishes, and optimistic comments, and we are very grateful for that support.

For helping shape the concept of “reissuing” *Grass: The 1948 Yearbook of Agriculture* into a modern work that reaffirms the messages of 1948 yet looks to the future, we are indebted to our Steering Committee: Vivien Gore Allen, Texas Tech University; Rod Heitschmidt, USDA–ARS (retired); Douglas Karlen, USDA–ARS; Matt Sanderson, USDA–ARS; John Sellers, Iowa grassland farmer; Lynn Sollenberger, University of Florida; and Francis Thicke, Iowa organic dairy farmer. In addition, two key individuals at the Leopold Center for Sustainable Agriculture were particularly helpful from start to finish. We thank Fred Kirchenmann, Distinguished Fellow at the Leopold Center, for his insight and contributions to developing the original concept and for initiating the conversations with the Wallace Genetics Foundation, Inc., that provided initial funding. We also thank Jeri Neal, Leader of Ecological Programs at Leopold for her insights and comments and for facilitating conversion of the 1948 yearbook into the CD that is included with this book.

We heartily thank all those who wrote, either as chapter authors or as sidebar contributors, and we are particularly grateful to the 28 highly qualified individuals who served as anonymous reviewers. Their perceptive and constructive reviews helped strengthen chapter content, as well as create message unification and balance for the book’s 14 chapters.
We are indebted to the staff in the publications department of the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America, including Frances Katz, Lisa Al-Amoodi, and Patricia Scullion for their guidance, encouragement, and contributions. We found them at all times to be helpful, sincere, and knowledgeable. We are especially indebted to Ann Edahl for her excellent editing and her dedication to making this book the best it possibly could be.

Finally, we acknowledge the authors and editors of the 1948 Yearbook of Agriculture for their writing, their wisdom, and their foresight in providing the legacy that inspired us to create this work. They were true pioneers, and we hope that our efforts not only will do justice to their legacy but will also inspire future generations to appreciate the quietness and strength that is grassland agriculture.
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