



American Writer's Revolutionary Theory Raises a Storm in Agricultural Circles

A LITTLE more than a year ago, magazines in America became suddenly excited about a book "Plowman's Folly," and a man, Edward H. Faulkner, and both now are arousing interest in New Zealand. Several of our daily papers for example, and at least one weekly journal, carried an advertisement last week asking New Zealand farmers to "scrap their ploughs and forget that they had ever heard of artificial fertilisers." The source of that advice, and the author of that revolution, if it ever happens, are that book and that man. Who is he, and what, in a nutshell, does he preach?

The Man and his Theory

OF the man himself we have so far not much information. Here is what his publisher says about him:

"Edward H. Faulkner is an agricultural expert, who has carried on his own experiments during recent years. Trained in agriculture at Williamsburg Baptist Institute (now Cumberland College) and at the University of Kentucky, he has been a county agent in Kentucky and Ohio, a Smith-Hughes teacher of agriculture, and a soil and crop investigator in private employment. He recently has carried on his experiments in garden plot and on a farm scale near Elyria, Ohio; his almost unbelievable yields make his experimental plots commercially profitable."

And this is what is claimed for his book on the dust jacket:

"*Plowman's Folly* is perhaps the most important challenge to agricultural theory yet advanced in this century. Its new philosophy of the soil, based on proven principles, is completely opposed to established concepts, and may revolutionise the entire practice of cultivation in the United States. 'This book,' says Mr. Faulkner, 'sets out to show that the mouldboard plough is the least satisfactory implement for the production of crops. . . . The fact is that no one has ever advanced a scientific reason for ploughing.'

"For generations our reasoning about the management of the soil has rested upon the use of the plough. Yet Mr. Faulkner shows rather conclusively that soil impoverishment, erosion, decreasing crop yields, and many of the adverse effects following droughts or periods of excessive rainfall may be traced directly to the accepted practice of ploughing natural fertilisers deep into the soil. His examples of perfect soil economy are drawn from Nature — the forest floor and the natural meadow—where the earth is constantly being improved through the accumulation of natural plant foods at the surface. Through his own test-plot and field-scale experiments, in which he prepares the soil by incorporating green manures into its surface with a disc harrow, he has transformed ordinary, and even inferior, soils into extremely productive, high-yield crop lands.

"Conversely, Mr. Faulkner shows, the act of ploughing under such materials, places them below the reach of the crop roots, creates a sub-surface 'blotter,' which interferes with the capillary movement of moisture upwards, and leaves the surface area a ready prey to all of the adverse forces of Nature. With his surface tillage, the author finds that he greatly increases his crop yield the first year, and that progressively his land is improved. Furthermore, he can bring about this greatly-increased fertility without the use of any of

the commercial fertilisers, and he has been able to detect a reduction in the susceptibility of his crops to insect pests."

"Time" is Sympathetic

WHEN the book first appeared in July last year—it has since run through seven printings—"Time" suggested that it had the "general approval of U.S. Department of Agriculture officials," or at least that the author's idea had. It went on to say:

"The idea: that the plough is a great enemy of man. Chief exponent of this theory is an Ohio experimental farmer named Edward H. Faulkner. He believes that ploughing is responsible for erosion and most other ills of the U.S. soil. He tested his theory by using a cultivation method of his own: instead of ploughing, he disc-harrowed the soil and planted his crops in the chopped-up surface stubble, weeds and debris. His harvest was astonishing. Many a farmer who reads *Plowman's Folly* may be tempted never to plough again.

"A Kentucky farmer's son, longtime county agent and agricultural teacher, Faulkner for 25 years has badgered farmers to tell him why they plough, claims that he never got an answer that made scientific sense. Most farmers plough, he concludes, mainly because they like to. Why is it, Faulkner asks, that when crops in a ploughed field become parched and yellow, the weeds in unploughed adjoining fence-rows still grow lush and green? Why do plants in meadows and forests grow prodigiously without cultivation? Because, answers Faulkner, they are fed and protected by decaying plants on the surface of the soil. Ploughing buries this organic material beyond the reach of most roots. Besides depriving the new crop of food, the buried vegetation forms a blotter that soaks up moisture from above and below, draws it away from the surface, where it is needed. The result, Faulkner points out, is to render the bare soil a ready prey to drought or erosion by rain. Appalled at the damage done by the mouldboard plough during its 200-year history, Faulkner observes that

with all their machinery, U.S. farmers get less yield per acre than Chinese peasants. . . .

"Faulkner rented a farm and conducted a serious test. He grew a thick cover crop of rye, harrowed it in, planted in a surface that looked more like a trash pile than soil. He used no commercial fertiliser, no insecticides. He shocked neighbouring farmers by his unorthodox method of planting tomatoes: he simply laid each plant on top of the packed soil and threw a little dirt on its roots. Within 24 hours, every plant stood up straight. The source of this idea was an old text book picture of a seedbed. Faulkner noticed that while the seedbed was dry, a heelprint in it looked moist; from this he developed his theory that the soil's capillarity (its ability to draw moisture from below) is improved if it is packed rather than loose.

"Faulkner's neighbours were still more amazed when they saw the fruit of these monkeyshines. Faulkner's tomatoes, heavier than average, brought premium prices; he grew sweet potatoes in two months instead of the normal four; he harvested five pickings of beans instead of the usual one or two."

"Expert" Co-operation

THE New Zealand advertisement to which reference has been made proclaims that in writing "*Plowman's Folly*," Faulkner "had the co-operation of all the following, who were fully conversant with his experimenting":

Professor Paul B. Sears, head of the Department of Botany, Oberlin College; Russell Lord, editor of "The Land"; Garret Garrett, special writer for "The Saturday Evening Post"; Peter Vischer, editor and publisher of "The Country Life"; Ollie E. Fink, curriculum supervisor, State Department of Education, Columbus, Ohio, and says that the book was not issued until the U.S. Department of Agriculture had "checked and confirmed its remarkable findings."

"Expert" Criticism

Then other experts woke up and said, in effect, that Faulkner was "talking through his hat." Here, for example, is a broadside by Emil Truog, chairman of the Soils Department of the Wisconsin College of Agriculture, writing in a recent issue of *Harper's*.

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