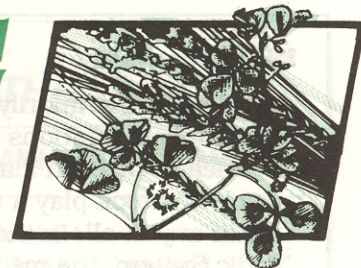


SUSTAINABLE FARMING

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BLACK MEDIC DOWN UNDER

AUSTRALIAN - U.S. COOPERATION PROMISES NEW UNDERSTANDING OF GREEN MANURE OPTIONS

By DAVID N. OIEN, CONRAD, MONT.,
FARMER AND PARTNER IN TIMELESS
SEEDS, WHICH RESEARCHES AND MARKETS
A VARIETY OF SEEDS FOR GREEN MANURE
CROPPING SYSTEMS.

A purely serendipitous meeting between two seed companies nearly 12,000 miles apart has brought a lively exchange of ideas and a wealth of possibilities regarding green manuring in the Great Plains and Northwest region of the U.S.

Revell Seeds of Dimboola, Australia, is a 36-year-old, family-owned seed company, and the world's largest producer and marketer of annual medics. Timeless Seeds, on the other hand, is a small Montana company whose roots go back just six years to a 20-pound bag of 'George' black medic.

The differences become secondary, however, when the conversation turns to building soil fertility for cereal grain production systems in semi-arid environments. The exchange of correspondence, research materials, and two Montana visits by Revell Seeds' Brian Hedt to observe farm tours, field trials and research plots has challenged a number of misconceptions on both sides of the Pacific.

BACKGROUND

The medics, annual cousins to alfalfa and members of the leguminous *Medicago* genus, were first introduced unintentionally to Australia in the early decades of the 19th Century via imported hay and livestock. But by the 1940s and 1950s, they had become a significant factor in Australian agriculture with the development of the ley farming system.

In ley farming, annual medics are included in a flexible wheat-pasture rotation in which self-regenerating medic stands are grazed with sheep and/or cattle and are tilled occasionally (usually no more often than every third year) to be planted to cereal grains. Allowing the hard-seeded medics to set mature seed establishes a seed reserve in the soil and assures stand regeneration following one or two years of cereal grain. Exact rotation is determined by rainfall and commodity prices.

Whereas the typical crop-fallow system in Australia's hot and harsh Mediterranean climate and fragile, exhausted soils resulted in significant erosion and decline in productivity in the 1920s and 1930s, the ley system introduced

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Gypsum Blocks Are Simple Tools That Provide Critical Soil Moisture Data — Page 3.

With Addition of Carbon Residues, Such as Straw, More Isn't Always Better — Page 5.

Utah Finds Legumes Liven Up Dryland and Irrigated Soils; Researchers Excited About Miranda and Poneka Peas — Page 7.

almost continuous soil cover, biologically-fixed nitrogen, increased grain yields, and income from livestock production.

The ley system eventually became the basis for the Montana Medic Farming System at the hands of Dr. Jim Sims of Montana State University in Bozeman. It was also the impetus for the development of the variety 'George' black medic (*Medicago lupulina*) from local wild populations. Sims' system

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