THE IMPACT OF PRAIRIE STRIPS: MORE THAN JUST "MORE"

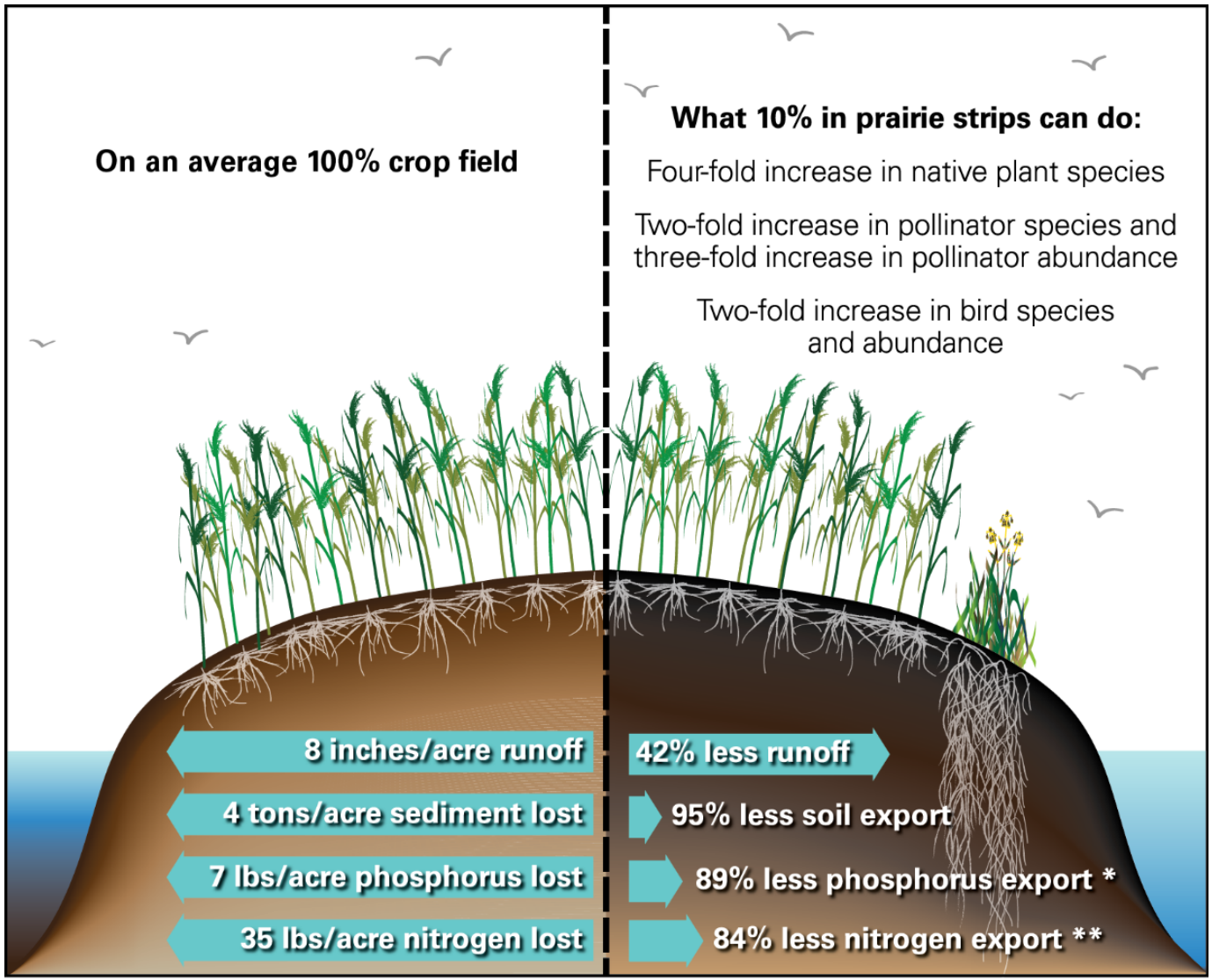
The STRIPS* team has calculated average values for surface water runoff, soil, nitrogen and phosphorus export off field sites cropped entirely in corn (left), compared to field sites enhanced with 10 percent prairie strips (right).

They also measured various indicators of biodiversity impacts, including plant, insect, and bird species and abundance. This infographic compares the average values for both types of fields.

On a 100 percent row-cropped field, each arrow illustrates average export values off the field into waterways. A field planted entirely in crops is agronomically productive, but also "leaky," losing nutrients and soil with water runoff and erosion. It also has little biological diversity.

On a field with 10 percent in prairie strips, all environmental indicators measured by the STRIPS team showed improvement. The lengths of the arrows are proportional to the measured improvements on the field.

Apart from the 10 percent taken out of crop production, there is no appreciable loss of crop yield on the rest of the field. A field enhanced with prairie strips also shows increases in biodiversity. A diverse ecosystem is better able to withstand extreme weather and other variables.



*Science-based Trials of Row-crops Integrated with Prairie Strips

This document adapted from Prairie Strips: Small Changes, Big Impacts, available on the ISU Extension Store: https://store.extension.iastate.edu/Product/15221.

More information on prairie strips is available at www.prairiestrips.org.

The values listed in the figure above come from the following sources:

Helmers, M.J., X. Zhou, H. Asbjornsen, R. Kolka, M.D. Tomer, and R.M. Cruse. 2012. Sediment removal by perennial filter strips in row-cropped ephemeral watersheds. Journal of Environmental Quality 41(5):1531-1539. doi:10.2134/jeq2011.0473

Hirsch, S.M., C.M. Mabry, L.A. Shulte, and M. Liebman. 2013. Diversifying agricultural catchments by incorporating tallgrass prairie. Ecological Restoration 31(2):201-211. doi: 10.3368/er.31.2.201

Schulte, L.A., A.L. MacDonald, J.B. Niemi, M.J. Helmers. 2016. Prairie strips as a mechanism to promote land sharing by birds in industrial agricultural landscapes. Agriculture, Ecosystems, and Environment 220:55-63. doi.org/10.1016/j.agee.2016.01.007

Zhou, X., M.J. Helmers, H. Asbjornsen, R. Kolka, M.D. Tomer, and R.M. Cruse. 2014. Nutrient removal by prairie filter strips in agricultural landscapes. Journal of Soil and Water Conservation 69(1):54-64. doi: 10.2489/jswc.69.1.54

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