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## FOOD: TREE INTERCROPPING

With TRANSITION NORTHWICH

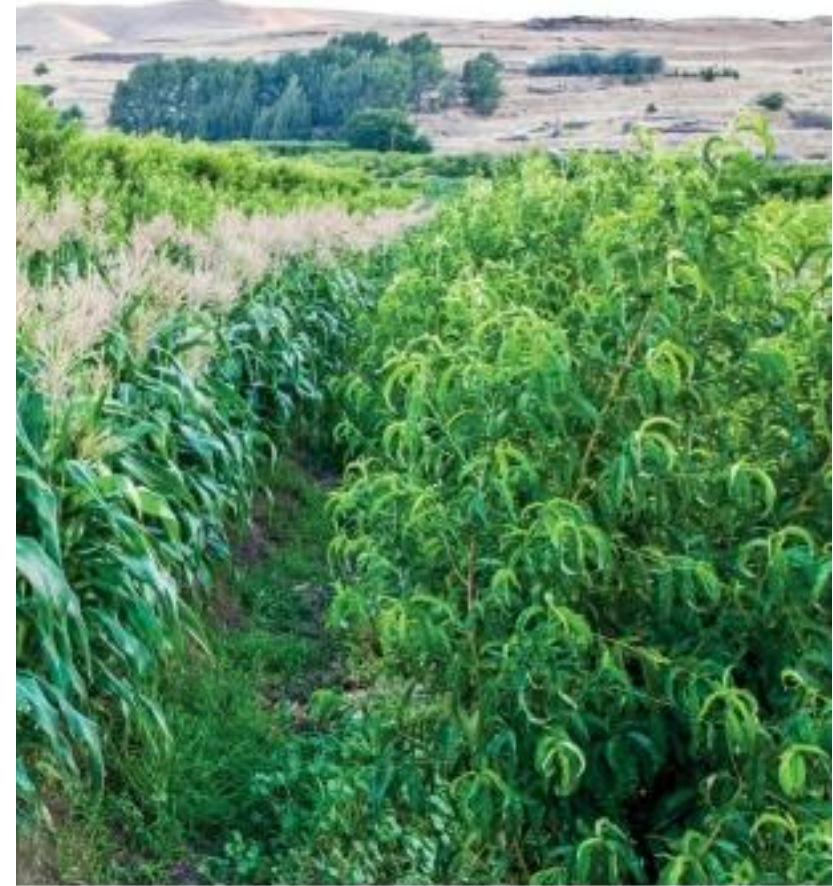
# Food for thought:

RANKING AND RESULTS BY 2050			#17
17.2 GIGATONS REDUCED CO2	\$147 BILLION NET COST	\$22.1 BILLION NET SAVINGS	

\$147,000,000,000

\$21,100,000,000

There are two ways to farm. Industrial agriculture sows a single crop over large areas. Regenerative practices such as tree intercropping use diversity to improve soil health and productivity and align with biological principles.



A new freestone peach orchard intercropped with corn in Klickitat County, south central Washington.

Like all regenerative land-use practices, it increases the carbon content of the soil and productivity of the land. Intercropping provides windbreaks that reduce erosion and creates habitat for birds and beneficial insects.



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To top it off, tree intercropping is beautiful—chili peppers and coffee, coconut and marigolds, walnuts and corn, citrus and eggplant, olives and barley, teak and taro, oak and lavender, wild cherry and sunflower, hazel and roses. Triple-cropping is common in tropical areas, with coconut, banana, and ginger grown together. The possible combinations are endless.



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To be successful at tree intercropping, a landholder has to carefully assess and know the land, soil type, and climate at hand. Sunlight, nutrient flows, and water availability determine species, density, and spatial overlap of trees and crops.



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Tree intercropping has many variations. Alley cropping is a system in which trees or hedges are planted in closely spaced rows to fertilize the crops grown between. The small trees or hedges are nitrogen-fixing leguminous species such as riverhemp, gliricidia, and apple-ring acacia.



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The result: Alley-cropped maize produced three times as much as the unfertilized maize grown solo. Because of food shortages in Malawi, impoverished smallholders are cropping maize on a continual basis, causing soil degradation and further decline in food security. Though land is “lost” to trees in the alley-cropping system, the increased yield—without chemical inputs—more than makes up for the loss.



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Evergreen agriculture, another variation of tree intercropping, calls for a discontinuous cover of scattered trees, such as apple-ring acacia, which provide fodder for livestock. These are planted based on the ecological knowledge of farmers who cultivate crops on lands prone to drought, wind, and erosion.



## EverGreen Agriculture as a Transformational Approach to Climate Change Resilience



World Agroforestry Centre  
TRANSFORMING LIVES AND LANDSCAPES

[www.worldagroforestry.org](http://www.worldagroforestry.org)

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During the rainy

growing season, the trees shed their nitrogen-rich leaves, which means maize and other crops do not need to compete for water or light. Yields can increase by a factor of three, without chemical fertilizers or other inputs.

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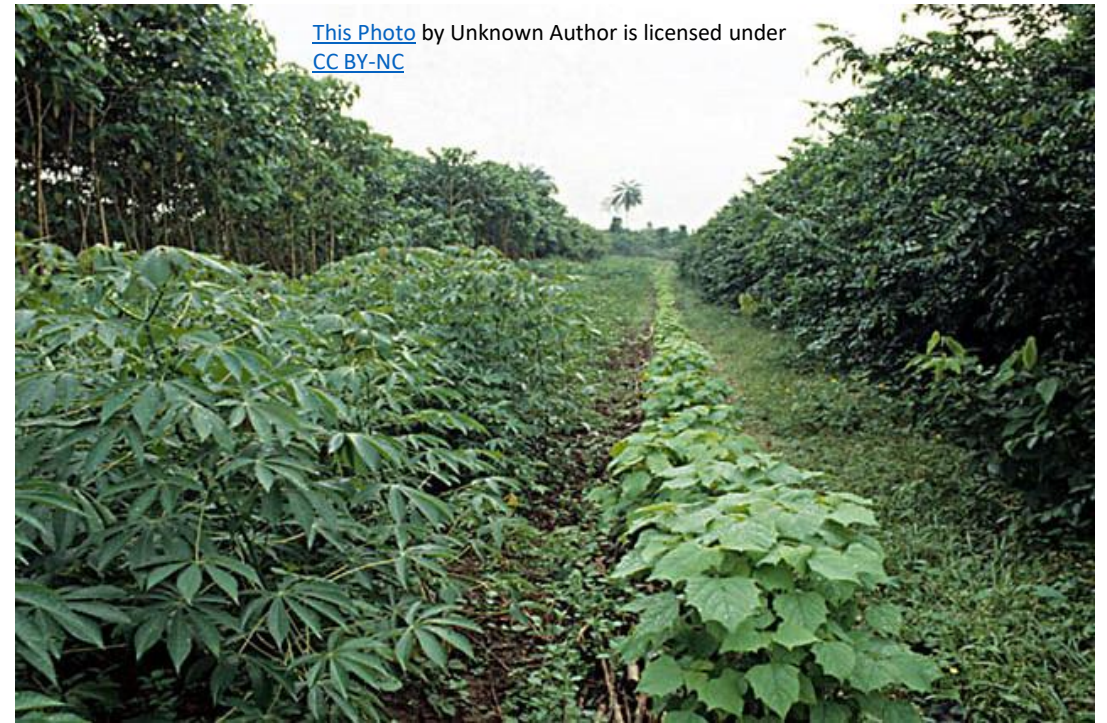


Other variations of intercropping include strip cropping, boundary systems, shade systems, forest farming, forest gardening, mycoforestry, silvopasture, and pasture cropping. Tree intercropping reinforces the idea that human well-being does not depend on an agricultural system that is extractive and hostile to living organisms.



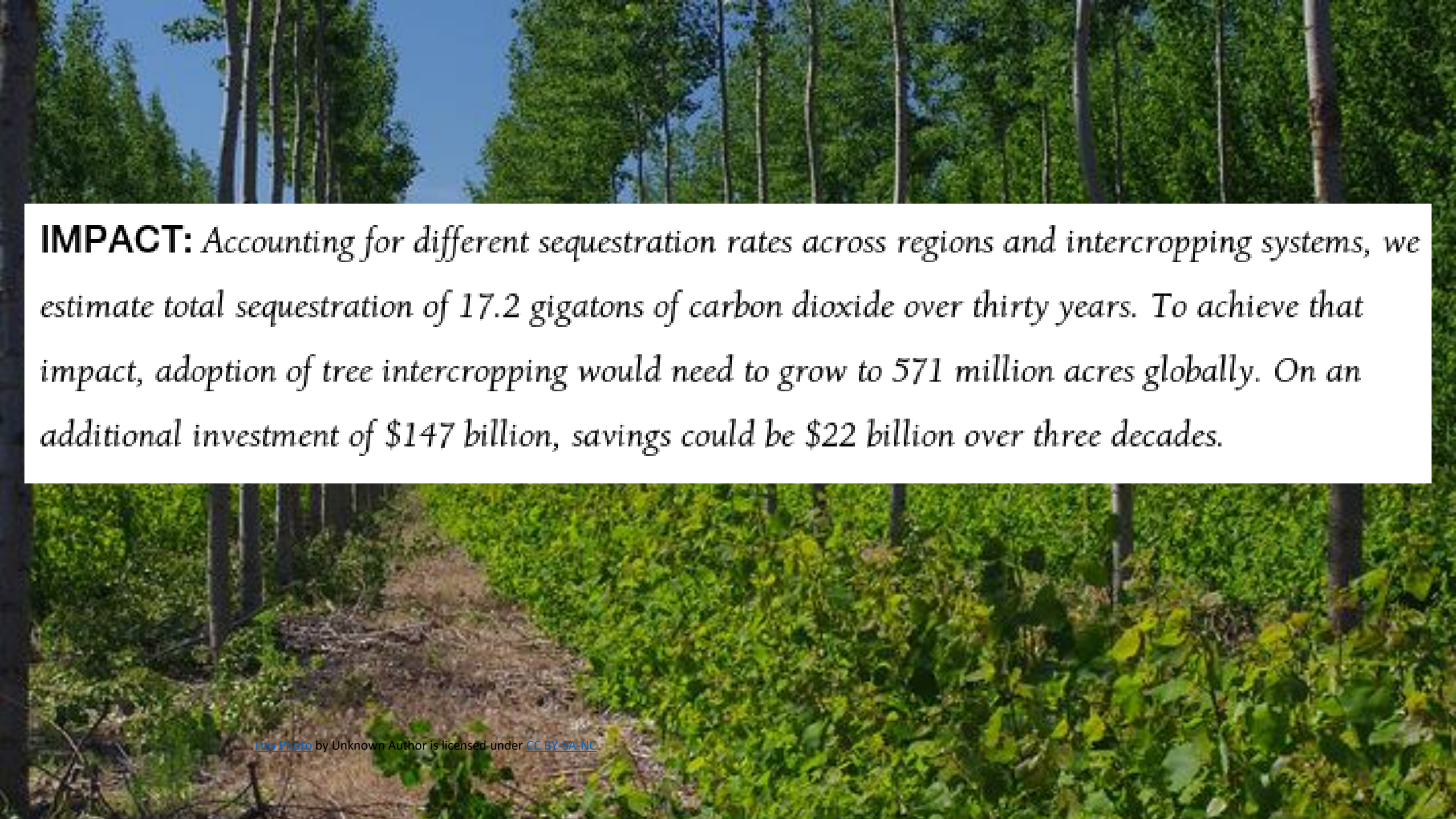
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Rather, it depends on discovering, innovating, and practicing methods of agriculture that feed a growing population, while providing continuous improvements to soil, fertility, habitat, diversity, and fresh water.



**IMPACT:** *Accounting for different sequestration rates across regions and intercropping systems, we estimate total sequestration of 17.2 gigatons of carbon dioxide over thirty years. To achieve that impact, adoption of tree intercropping would need to grow to 571 million acres globally. On an additional investment of \$147 billion, savings could be \$22 billion over three decades.*

For investigation: please feedback any information you have.

See articles posted by Jackie re forest gardens and silvo arable – nitrogen fixing Leguminosae suitable for the UK

What can we do?

Lobby parliament and others (e.g. NFU, Young Farmers associations)

Local forums about climate emergency.

Intercropping Wild Cherries with Sunflowers.

Reaseheath – asking what they're doing, tell what we're doing.

What are Mere Brow doing? Reaseheath? Can we arrange a visit.

Marbury orchard – Volunteer Team - interested in forest gardening/  
undercropping?

Memorial Orchard – Thorn Wood

Mungo – Beech Hill