“History” of Interest in Soil Health

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Search USDA
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Energy Tools
- How were estimates made?
- Why are some of the estimates blank?
- What are the assumptions?
- Want a more accurate estimation?
- Tillage definitions

Other Resources
- Link to your Local NRCS Office
- NRCS Programs in NE
- NRCS Energy Information
- USDA Energy Information
- Energy in Agriculture
- Conservation Technology Information Center
- Private Land Owner Network

Feedback
- Comment on Energy Estimator: Tillage

Step 3: Fuel Consumption and Cost

The fuel use estimates are based on per acre fuel uses found in the literature on typical cropping & tillage systems in your area. These estimates are based on field conditions that existed in test trials cited in the literature. An example of the literature which supplied fuel consumption usage is "Estimating Farm Fuel Requirements" by H.W. Downs and R.W. Hansen (http://www.ext.colostate.edu/PUBS/FARMMGT/05006.html)

Total Diesel Fuel Consumption Estimate (in gallons per year)

	Crop	Acres	Conventional Till	Mulch Till	Ridge Till	No Till
[Details]	Corn	500	2,699	2,264	2,245	1,565
[Details]	Soybeans - wide row	500	2,619	2,184	1,730	1,165
	Total Fuel Use		5,318	4,448	3,975	2,730
	Potential Annual Fuel Savings over Conventional Tillage			870	1,343	2,588
	Savings			16%	25%	49%

Fuel use estimates are based on average field and equipment conditions, average fertilizer and pesticide applications, and normal crop yields. They do not include: fuel use associated with trips to your fields and farm-to-market transport, irrigation, and, grain drying. They also do not consider differences in fuel use associated with crop yields, soil texture, slope, field size and shape, implement width, tractor size, tire inflation or driving techniques. Your actual fuel use may vary significantly from the value presented.

To see a different cost estimate, change the diesel fuel cost per gallon and click the **Recalulate** button.

Diesel fuel cost per gallon: $ 3.00 Recalculate

Total Diesel Fuel Cost Estimate (in dollars per year) based on $3.00/gallon

	Crop	Acres	Conventional Till	Mulch Till	Ridge Till	No Till
[Details]	Corn	500	$8,099	$6,794	$6,735	$4,695
[Details]	Soybeans - wide row	500	$7,859	$6,554	$5,190	$3,495
	Total Fuel Cost		$15,954	$13,344	$11,925	$8,190
	Potential Annual Fuel Savings over Conventional Tillage			$2,610	$4,029	$7,764

Total Diesel Fuel Consumption Estimate (in gallons per year)

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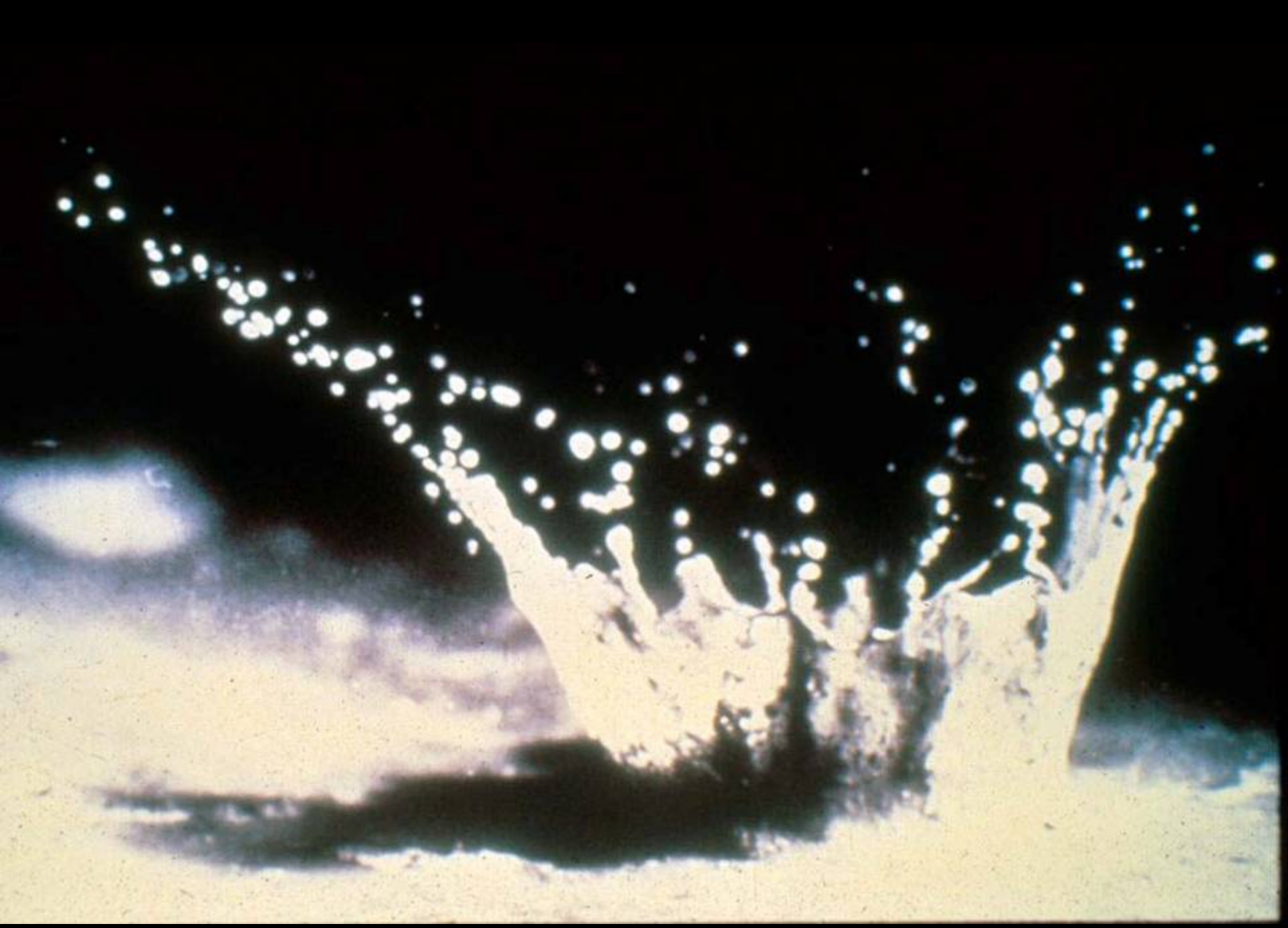
Conventional to No-till
Fuel Savings 49%
2.59 gpa $7.76/A


Wind Erosion




NASA photo


Native Soil Structure

No-till Education in China

April 25 to May 1, 2010


KUHN

“When you look at China you see a country that seems to be in the driver's seat economically. Yet it has to feed 1.2 billion people and is harvesting 80% of its corn crop by hand and transporting it via small carts and wagons.”

Don Hutchens, Executive Director, Nebraska Corn Board

Irrigation and No-till Education in Turkey

October 2009 & June 2010


CrustBuster

No-till Education in Ukraine

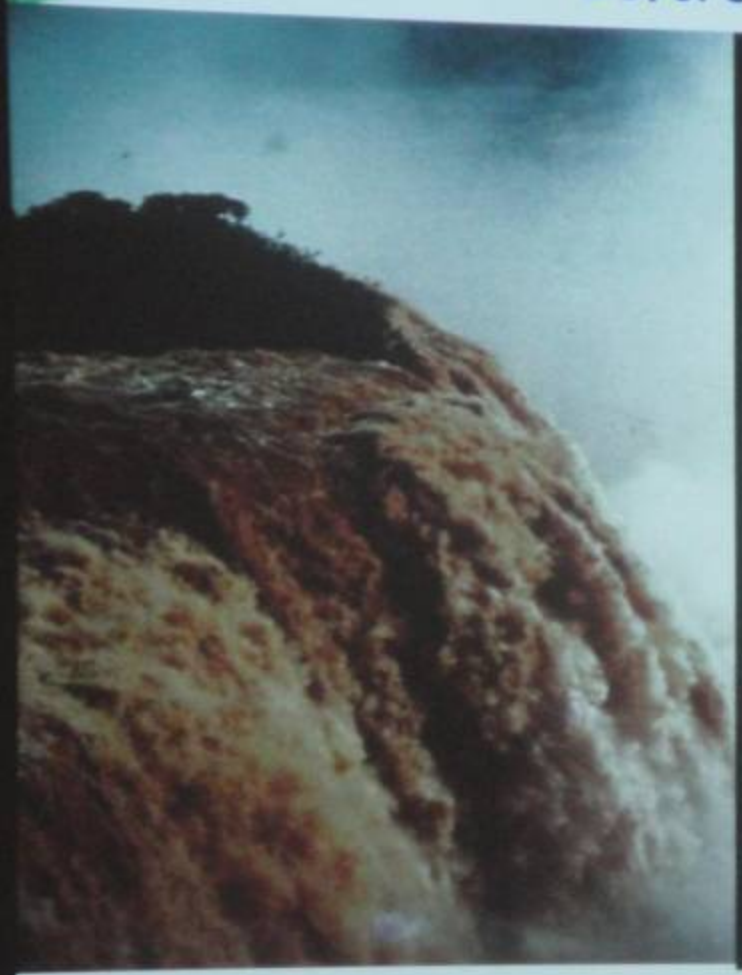
November 2004 August 2005 July 2011 June 2012

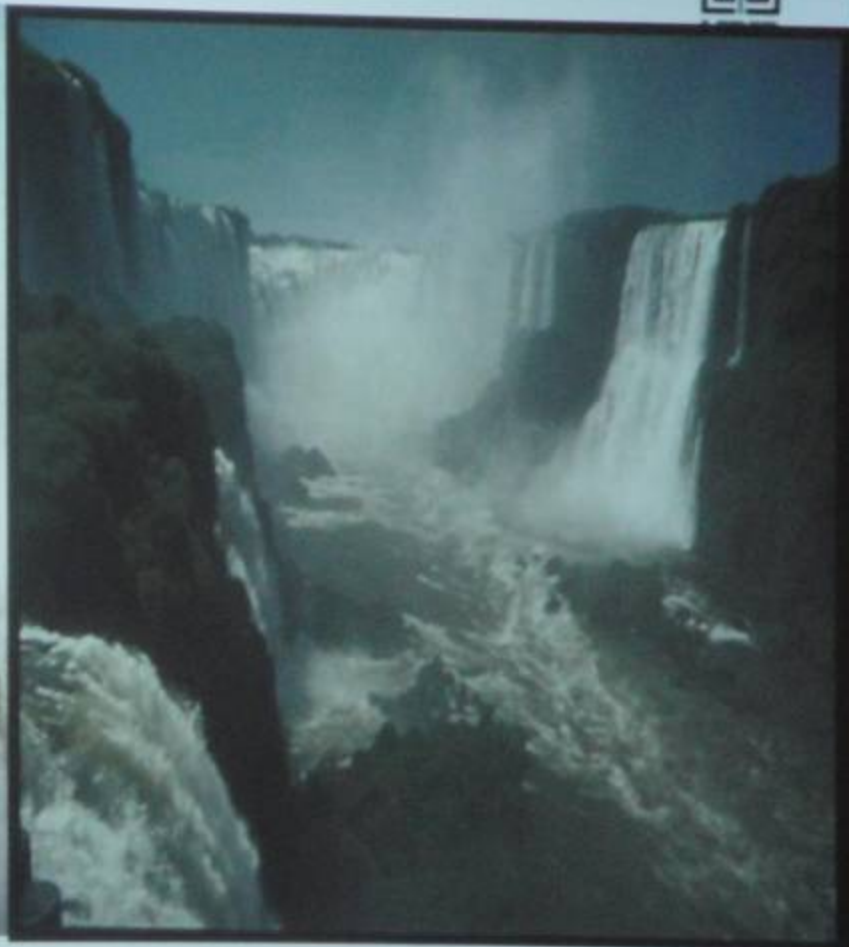

AUG 17 2005


Upside Down
WORLD MAP
SOUTHERN OCEAN
SOUTH ATLANTIC OCEAN
INDIAN OCEAN
SOUTH PACIFIC OCEAN
NORTH PACIFIC OCEAN
NORTH ATLANTIC OCEAN
ARCTIC OCEAN
AUSTRALIA
BRAZIL
INDONESIA
INDIA
CHINA
MONGOLIA
KAZAKSTAN
THE RUSSIAN FEDERATION
CANADA
U.S.A.
GREENLAND
CONGO
ETHIOPIA
SUDAN
CHAD
NIGER
MALI
ALGERIA
LIBYA
EGYPT
IRAN
PAKISTAN
UKRAINE

Brazil March 2011

Before and after





Photos : Rolph Derpsch


MASSEY FERGUSON
MF 511 Mist


Jumil
pneumatic

Cover crops provide carbon biomass to protect and build the soil

(From Rolf Derpsch, Paraguay)

This is how a long term no-till soil looks

(Derpsch, 2005)

This is how no-till looks like after seeding

(Derpsch, 2005)

This is how no-till looks a few weeks later

(Derpsch, 2005)


TINTAS
DASA