

# Knowledge Farm

## Newsletter

February 18, 2005

### Fresh Air Photos



(click for larger image)

[go to photo archive](#)

## The Beauty of... Polyculture Grains - modeling diversity

I experienced an astounding awakening last October at the Land Institute's **Prairie Festival** outside of Salina, Kansas.

When I arrived for the two day event I already knew of the brilliant studies being pursued there to develop perennial food grains - in particular wheat. The question that frames this work goes something like this - ***What if a world food grain such as wheat were grown as a perennial plant instead of an annual?*** Simple enough idea but deceptively complex scientifically, economically and politically.

In a modest tent on a cool sunny morning I saw samples of grain morphology showing a wild grass transforming into food grade wheat. And beside that was a display of native grass with an amazing root systems 10' in length. It was being compared to an annual wheat plant with root depths of 12 to 18 inches. This was a jarring recognition. Here I could see a graphic example of plant and soil health that had once existed and is now lost from the vast surfaces of the American Great Plains.



<-- Root system of native grass - Big bluestem

(click picture for larger view)

Big bluestem and many other native perennial prairie plants of the Midwest and Great Plains played pivotal roles in developing the world's richest soils.

The monoculturization of the prairie is running its course. One can drive from the Canadian border of Michigan to the middle of Nebraska and see what is essentially one continuous corn field. Diversity has been erased. There are few plants or animals that are not directly related to producing corn - including a shrinking number of human beings. This subject and others of equally large magnitude are work targets at **The Land Institute**.

What follows is excerpted from the Land Institute's web site.

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

## Characteristics of Annual vs Perennial Systems Jerry Glover

Presented February 20, 2003

**Abstract.** A fundamental challenge of the 21st Century will be to maintain both agricultural production and the integrity of our natural ecosystems. Monocultures of annual crops, currently providing a majority of humanity's food and fiber needs, provide sharp contrast to the diverse perennial plant communities characterizing, with few exceptions, natural ecosystems. The large-scale conversion of natural ecosystems to annual cropping systems has profound effects from the field to the landscape level. In comparison to perennial plants, annual crops inefficiently utilize water and nutrients resulting in degradation of soil and water quality. North America's Corn Belt provides a vivid example of the impacts of large-scale conversion of native vegetation to annual monocultures. The region, formerly tall-grass prairie under which the world's most fertile soils were formed, was largely converted to annual cropping systems in less than 150 years. The result has been irrecoverable soil loss from the fields, widespread contamination of surface waters in the region, and nutrient contamination of the Gulf of Mexico thousands of kilometers downstream. Conversion of annually cropped land back to perennial cover provides great potential to mitigate these problems. As the global human population grows to an expected 8 to 10 billion people over the next fifty years, it will not be sufficient to merely convert cropland back to native vegetation. Innovative, productive cropping systems employing the efficiencies and conservative strategies of natural ecosystems must be designed to meet the fundamental challenge of this century.

Presented by Jerry Glover, Ph.D., The Land Institute, Salina, KS, at the Sod Based Cropping System Conference, University of Florida's Institute of Food and Agricultural Sciences, Quincy, Florida, February 20-21, 2003.

[www.landinstitute.org/vnews/display.v/ART/2003/02/20/3e78b3f2d0336](http://www.landinstitute.org/vnews/display.v/ART/2003/02/20/3e78b3f2d0336)

## Other stuff...

### Wheat Montana

"...Wheat Montana is still Family owned and operated. Our staff consists of over 100 dedicated employees with some of the highest credentials in the field. Our facility includes grain cleaning, processing, flour milling and a full scale bakery that services a five state area. Our grains, cereal, and flour are sold nationwide."

[About Wheat Montana](#)

[Wheat Montana News](#) - (nice newsletter)

### CORRECTIONS - corrections for Photojournalism Newsletter of 2/4/2005

In the February 4 newsletter I referred to the famous photojournalist Robert Capa as Frank Capa, excuse my error. He is of course best known for his photograph titled Death of a Loyalist soldier, Spain, 1936. He made this photograph when he was 23 years old. He went on to cover most of the war years in Europe and died in Indochina in 1954 from a land mine. His work appeared in LIFE magazine from its beginning until his death. He was one of the founders of Magnum Photo Agency.

th See new links on the KF web site to Magnum Photo Agency by clicking the new "Photojournalism" link on the [directory page](#) a majority

### CHANGES

Changes on the KF web page include new layouts and graphics.

[GO TO the KF web site now](#)

There is a NEW link to a new web site archive of work by William Katavolos.

[Check it out at williamkatavolos.org](http://williamkatavolos.org)

George Beggs 2/2005 - Feedback is welcome at [gbeggs@frii.com](mailto:gbeggs@frii.com)