

New Agriculture

DECREASING EFFICIENCY

...In any case, one must distinguish between the consumption of energy which entails the use of mechanical methods and that which entails the use of chemistry. While mechanization, except in cases of extremely complex machinery, is productive from an energy standpoint, the utilization of chemical methods presents negative characteristics. The problem stems from the impossibility of dissociating one element from another. The utilization of modern agricultural machinery implies the consumption of synthetic fertilizers and plaguicides.

The fact that the balance of energy in intensive modern agriculture presents such a negative profile is a warning against the enthusiasm with which the methods of the green revolution have been adopted in recent decades, but it is not, in itself, a decisive element which should lead to a global condemnation of agricultural modernization. It would be absurd to ignore the beneficial effects which the massive utilization of fossil fuel has achieved for the labor of the rural population. But it appears essential to attempt a reconciliation between those advantages and the serious disadvantages posed by the progressive impoverishment of natural resources which its extension entails.

Some observers have insisted, in response to denouncements of energy waste, that this sector absorbs only 3.5% of commercial energy worldwide. If this is true, it is also true that the possibility of extending the American model (which has achieved energy outputs of only fifty percent, without even considering transportation expenses and the elaboration of foodstuffs outside of agricultural operations) encounters certain unavoidable physical limits regarding the availability of energy resources.

The possibility of achieving a balance between ~~the~~ consumption of energy and ~~the~~ intensity of manual labor in agriculture should not be discarded, but it appears ever more difficult when, to increase the yield by five times in the production of corn, thanks to the application of modern methods, the amount of commercial energy employed must be increased by about 175 times ~~more~~. *more*