

GHOLSON, LARRY E.\*, W. WIMMER, and B. FINGER. Western Sugar Company, 1700 Broadway, Suite 1600, Denver, CO 80290. - Computerization of the sugarbeet field crop record.

Collection of agronomic, pest and crop management data on a field-by-field basis is essential to producing a high-quality sugarbeet crop. Unfortunately, this information, when it exists only in field notebooks, is difficult to consolidate for optimizing information utilization on a factory or corporate basis. Since 1988, Western has been developing a computerized system for fieldman use to place all field crop record information in an easily accessible database and to attach production measurements so that specific practices can be evaluated. This process has entailed the selection of appropriate hardware and development of software to encourage regular usage by field staff. The result is a powerful database that can generate individual field reports for growers and overall reports for corporate managers.

KEARNEY, MICHAEL\*, KATHY HIEB, BEVERLY CROTHERS, AND DEL TRAVELLER. The Amalgamated Sugar Company, P. O. Box 127, Twin Falls, ID 83303. - Forecasting yield with neural networks.

Neural networks are models that simulate the biological neural structure of the brain. Unlike familiar computers and software which operate in a serial manner and follow programmed rules, neural networks are massively parallel and learn appropriate rules on their own. Following training, neural networks can exhibit useful generalizing abilities. Several neural networks were constructed for the purpose of forecasting crop yield. Initial results indicate that neural networks may be quite useful for this application.