



美四层执法州大学校学院约翰赴《筛曼德林斯》明三位数授来华讲学纪念合影



















亲良名所観光記念法 隆 寺

古くは対略寺ともよばれ、推古15年(607)聖徳太子が創建。境内は、五 重導・金堂のある西院と、参殿のある東院を中心に、多くの塔頂からな り、金堂や五重塔は世界最古の木造建築である。国宝・重文が数百件も ある飛鳥美術の宝庫としても知られている。

n the Farm

rmers get uestions.



Dr. Steve Harsh checks figures he will give to a computer on push-button phone.

considering to harvest

en hiring the r has an old aught his eye to take the uipment will ance and up-

Ar. Farmer's

er efficiency

n at his telethen plugs in times on the

is answered to order the

e fiction. But blex financial bly by picking of efforts by Even so, the problem was completely solved in less than five minutes.

In this particular example, the computer announced that John Q. Farmer would save more than \$2,000 if the combine were purchased and used eight years. It also gave advice on which method of depreciation to use and also said that it wouldn't pay to buy the machinery if it were used to harvest less than 240 acres.

Dr. Harsh, one of the leaders in setting up the system and computer programs for it, gave a rundown of the problems the equipment is capable of solving.

Variety of Programs

Among them are the investment question described here, calibrations for air-blast sprayers and weed sprayers, herbicide recommendations for corn, recommendations on what to do to combat apple scab, advice on fertilizers to use in various types of soil for various crops, income tax averaging analysis and income tax management analysis.

Although the system is fairly new, word of it has spread and, due to the time of year, the income tax programs already have proven to be popular. Another program now being readied will aid in diagnosing push-button telephone set with them and have been instructed in how to use the system.

District horticultural agents soon will have the same equipment and training. If successful, the system might be expanded to include all county agents and passibly some agri-business firms.

A farmer now wanting an answer to a problem the computer is geared to solve simply would contact his

county agent to find out when the be making his next swing throu

At first glance, contacting a tion to the computer appear cominutes of learning some basic up the apparent mystery.

With a push button telephon operated blindfolded. Impulse buttons tell the machine what

There's no problem if a partic doesn't happen to have push-but available (Michigan Bell's name Touch-Tone). The computer call lar dial phone with the push but after the initial contact.

Computer "Talks"

The person calling the comparation machine-generated female voice give. The non-human voice the answers and repeats them if the

The computer also is program has a chance to correct any error in feeding information.

Currently, the only cost involems with the computer's help station-to-station phone call. Cobeing paid for under a MSU Ke

Although the system is operation the experimental stage. If for the service, it still can be sufficient demand, the system operhaps enlarged to handle oth

While few, if any, farmers coof their own, the MSU-U. of N close as the telephone.

Synthia, a 'Gal' Who Does What She's

A mass of metal and electronic parts that talks.

It seems impossible. But anyone using the University of Michigan-Michigan State University agricultural computer program system knows it's true.

The fact that the computer can



intensity over And machines reproduce any tion of sounds

The U. of M. in a female voice the female voice duce mechanics machine could



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Computers Speed Up Farm Management Decisions

By Darrell Petska Editorial Assistant Department of Information University of Nebraska

The age of computers may soon be available at the fingertips of every farm and ranch manager who has access to touch-tone telephoning or teletype systems, a University of Nebraska Extension Farm Management Economist suggests.

Dr. Larry Bitney of the NU College of Agriculture said that the systems can be utilized for such decisions as whether to buy or custom hire machinery, to use income averaging rather than standard tax computations, and to determine how much an individual farmer can afford to pay for a group of feeder cattle.

The Extension economist noted that two states—Michigan and Virginia—already use touch-tone and teletype remote computer terminals to assist farmers and ranchers in making their management decisions. They are used there mainly in Cooperative Extension work, but one Lincoln firm now uses the teletype computer terminal to figure least cost feed mixes, flitney pointed out.

Demonstrated recently at the meeting of the North Central Extension Farm Management specialists in Lincoln, the two systems will "become a definite part of farming operations in the future," according to Michigan State University Ag Economist Al Tinsley.

Bitney explained that with the touch-tone system, a touch-tone telephone is used to call a computer. After the computer is electronically activated by calling, information necessary for the computations is relayed by touching numbers corresponding to the data on the touch-tone telephone. The different sounding tones of each number clue the camputer to the exact informa-

continues. The answers from the computer are then transmitted to the touch-tone operator by the same computerized voice.

The teletype remote computer terminal employs a standard teletype which is used by the operator to contact the computer and then to type the appropriate information on the machine. The teletype, through the computer, reveals the responses of the computer, litteey said.

He commented that some of the problems for which the computers are used could be worked with pencil and paper, but that the computer is much faster, easier and more accurate. Only a few seconds of computer time are involved, and only five minutes may be needed for a decision to be reached through the two systems, compared to possibly hours or days in present cas-

es, Because the teletype costs about \$70 per month, Bitney added, only the larger farmers or businesses could afford the expense, but a county Ditension office or large company could profliably utilize such a system. leasing the devices to the farmers to cover expenses of the installation and maintenance. An advantage of the teletype is its reduced toll of calling; however, the touch-tone would probably cost less than five dollars per month in addition to normal monthly telephone bills, he not-

He cautioned that before managers could use and interpret such computer information, a workshop might be necessary so that they become more adept at the operation involved.

Bitney also pointed out that the use of a touch-tone system is limited to problems with a relatively small number of input items. It therefore might not be used for farm record entries individually given, because of the large data accumulations.



Stephen Harsh, Ag. Feonomist of Michigan State University, is shown using the touch-tone remote computer terminal to contact the computer, before relaying information needed for decision computations. Harsh, son of State Senator Lester Harsh of Bartley, demonstrated the us of the remote computer terminal during the recent meeting in Lincoin of the North Central Region Extension Farm Management specialists. He used the phone to contact a computer locate in Michigan. As the system becomes more commonly used, computers may be available in person's hometown or a short distances away, lessening calling charges. The touch-tone phon illustrated could be acquired by any farmer or rancher for use in his own home. The terminal although previously available, is now being extended into the area of farm management decisionaking. (University of Nebraska Photo)

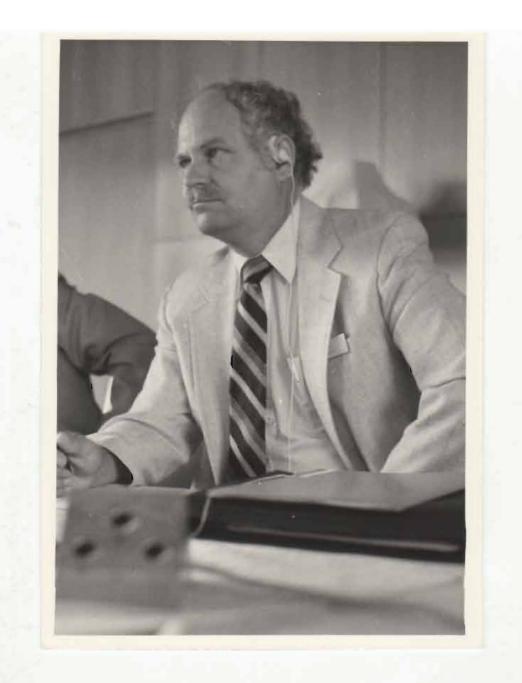








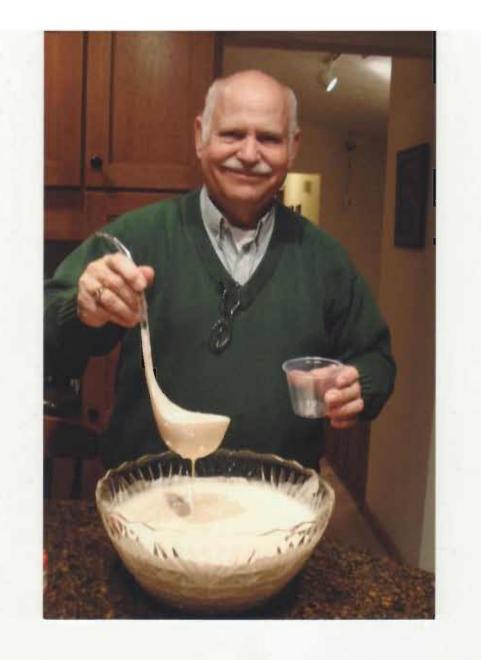






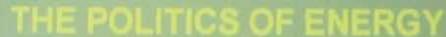












- Several proposed and actual legislation to reduce greenhouse gases
- Push for renewable energy in the President's State of the Union Address and the new administration
 - 20% electricity from wind by 2030
- State level developments
 - Michigan 21st Century Energy Plan
 - Newly passed energy bills
- Other reports and influences
 - United Nations recent global warming reports
 - Al Gore's award winning film An Inconvenient Truth
 - The new Copenhagen Accord (& Cancun Adaption)
 - Overall goal: Limit warming to 2 degrees Celsius
 US Goal: Roll back from 2004 level, 17% by 2020
 ctuation in the cost for fossil fuels

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