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ABSTRACT

The California Agriculture Education Computer Network was developed to provide agricultural educators and support staff in agricultural education with the most up-to-date and comprehensive agricultural information possible. The network allows secondary instructors to access databases that contain information about the most recent agricultural issues and to update curriculum, improve program management, and improve instruction. Phase III of the project, conducted from November 1989 through August 1990, continued implementation of the computer network. Fourteen new project sites of a total of 261 were connected during this phase. A total of 301 instructors, state staff, teacher educators, and community college instructors were able to exchange information, as well as receive resource information from two remote computer database services: AgriData Resources and the Agricultural Technology Institute (ATI). The network coordinator was responsible for providing technical support, developing a database, and providing inservice training for users of network services. Phase III development was based on input from a computer networking advisory committee, a written survey of project users, and ongoing evaluation by project personnel. Evaluation data from participants and advisory committee members indicated that the project was successful in meeting the needs of the participating member sites. (Appendixes list project sites, summarize training services, record advisory committee minutes, summarize a regional survey of agricultural computing trends, and provide three sample articles on computer communications by the network coordinator.) (KC)

CA90PD10

FINAL REPORT

Project Title:	**Agricultural Education Computer Networking**
Agency:	**University Of California, Davis**
Project Director:	**James G. Leising**
Project Coordinator:	**Nathaniel D. Jaeggli**
Contract No.:	**#7197**
Period of Project:	**November 1, 1989 to August 31, 1990**

"The activity which is the subject of this report was supported whole or in part by the U.S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Department of Education should be inferred."

EXECUTIVE SUMMARY

AGRICULTURAL EDUCATION COMPUTER NETWORKING PROJECT - PHASE IV

The dynamic complexity of agriculture is evident in every dimension of present day production and marketing. Due to technological advances in production, and the ever changing political and economic environment, agriculture educators and supporting staff of agricultural education must have access to the most up- o-date and comprehensive agricultural information possible. In order to provide secondary students with this timely information, computer technologies, specifically computer networking, was identified as a means by which information transfer needs could be met. Computer networking allows instructors the opportunity to access databases that contain information and news concerning the most recent agricultural issues. Subsequently, computer networking is a means to update curriculum, improve program management, help provide agriculture educators with a more contemporary image and ultimately improve instruction for the student.

The primary objective of this project was to continue the implementation efforts begun in Phase III of the California Agriculture Education Computer Network. A total of 261 project sites were connected during the project period. A total of 301 instructors, state staff, teacher educators, and community college instructors were able to exchange information, as well as, receive resource information from two remote computer database services: AgriData Resources and the Agricultural Technology Institute (ATI). The network coordinator was responsible for providing technical support, development and maintenance of a data base for agricultural teachers and inservice training for the efficient and effective use of network services. The development of this project was based on input from the computer networking advisory committee, a written survey of project users and ongoing evaluation by project personnel.

Evaluation data from participants and advisory committee members indicated that the project was successful in meeting the telecommunication needs of the participating member sites.

Project Summary

I. Objectives

A. Add additional project sites to the CAECN during 1990.

B. Provide inservice training for all new users.

C. Provide additional inservice training to existing users.

D. Provide preservice workshops on computer networking for graduate students at the five teacher training institutions.

E. Provide inservice training for State Agricultural Education staff.

F. Obtain input from CAECN project members.

G. Develop broad-based support across California for the CAECN Project.

H. Provide support for data base service reports.

II. Project Activities Conducted

Objective A.

Add additional project sites to the CAECN during 1990.

Activities Conducted:

1. Regional supervisors were contacted to obtain names of possible project sites.
2. Letters of invitation were sent to recommended project sites.
3. Presentations were made at regional meetings on benefits of being a CAECN project member.
4. Sectional demonstrations were conducted on benefits of networking.

Objective B.

Provide inservice training for all new users.

Activities Conducted:

1. New project sites (14) received inservice instruction after equipment, software, and phones were made available.
2. Inservice of new project sites was conducted by project coordinator. Cross training by competent users was encouraged when ever possible.

Objective C.

Provide additional inservice training to existing users.

Activities Conducted:

1. Individual on-site instruction was provided when requested by project users.
2. A series of statewide workshops were held on a regional basis in conjunction with curriculum revitalization and international agriculture.

Objective D.

Provide preservice workshops on computer networking for graduate students at the five teacher training institutions. (See Appendix B.)

Activities conducted:

1. Preservice workshops for graduate students were held at each teacher training institution.
2. Additional follow up services were provided during student teaching when requested.

Objective E.

Provide inservice training and technical support for State Agricultural Education Staff.

Activities conducted:

1. Supervisors and support staff were provided with inservice training when requested. (See Appendix B.)
2. Phone support for hardware, software, and network problems was made available.

Objective F.

Obtain input from CAECN project members.

Activities conducted:

1. One advisory committee meeting was conducted to get input from project members and provide direction for CAECN project.
2. A survey was conducted to obtain information about the type of hardware used to access CAECN project services. (See Appendix D. for summary.)

Objective G.

Develop broad-based support across California for the CAECN Project.

Activities conducted:

1. Numerous articles were written for the Golden Slate.
2. Technical support was provided for the FFA Computer Contest and Record Book Software project.
3. Numerous articles were written and have appeared the in Agricultural Education Magazine, and the CUE Newsletter. (See Appendix E. for a sample of news articles.)

Objective H.

Provide support for Data Base Service Reports.

Activities conducted:

1. Calendars and newsletters were maintained on a monthly basis.
2. Curriculum files were "uploaded" by CAECN project personnel. Updates and additions to the "California Agricultural Model Core Curriculum" were published on the ATI and AgriData information services, including lessons for the Plant and Soil Science and Animal Science Clusters.

III. Actual Outcomes

A. A variety of sources have contributed to the increased number of project sites. As of November 1, 1989, a total of 247, project sites with 278 identified users. During the project period (11/1/89-7/31/90) recommendations by regional supervisors and general letters of invitation have resulted in 14 additional secondary project sites. There are currently 261 project sites with 301 identified users. (See appendix A)

B. The project coordinator made a total of 39 project site visits resulting in contact and training of 146 individuals. Demonstrations of project services occurred at 20 project sites with 394 individuals attending. (See appendix B)

C. Training workshops were provided for new and existing members of the CAECN to improve networking skills and provide instructional strategies for use in the classroom. Additional training sessions for existing users was provided during skills week at the CATA conference with 30 teachers participating. Additional workshops have been held at several regional meetings, and judging field days. As a result of this project, all training for new and existing members is maintained on a current basis. Project members are encouraged to call the project coordinator or teacher trainers whenever a problem occurs using the CAECN project.

D. Preservice training to graduate students and student teachers was provided at five teacher training institutions as requested by teacher educators. A total of 27 student teachers and 14 teacher educators received

training in the use of network services. Follow-up sessions were held with 5 student teachers at their cooperating schools sites.

E. Training for the state supervisor and six regional supervisors and staff, when appropriate, occurred at their program sites. Additional phone support for state staff, teacher educators and support personnel was available throughout the project period.

F. One advisory committee meeting was held in October at U.C. Davis. The primary purpose was to determine progress and provide overall direction to the project. A list of advisory committee members and meeting minutes are included in Appendix C.

G. A questionnaire was developed and administered during the fall regional meeting by the regional supervisors in October. The purpose of the questionnaire, was to determine the how computers technology and networking was being used in agricultural education programs in California. Appendix D contains a summary of the questionnaire results, and comments.

H. Articles describing the use of computer networking have been published in the Golden Slate, The Agricultural Education Magazine, and the CUE Newsletter.

I. A database specific to the needs of agricultural teachers was maintained by the project coordinator and staff. A total of 21 service reports, calendars and newsletters were updated monthly. In addition, 128 lesson outlines for the basic core of the model agricultural curriculum framework were up-loaded to ATI and AgriData. Curriculum files were converted from network format to disk based

format (3.5" and 5.25") for Apple II, Macintosh, and MS-DOS computers. Additional work on the CATA Curricular Code was completed in May, 1990 (conversion to an electronic format) and was sent to Cal Poly SLO.

K. The project coordinator supported the activities of the FFA Computer Contest at both the State Contest held in Pomona and at other contest sites: U.C. Davis, Chowchilla, and Merced.

L. Additional training materials have been developed by the project coordinator that support the efforts of training new and existing project members. Several tutorials describing specific network functions have been written, "Sending and Receiving Mail", "Capturing Files to Disk" and "Preparing ASCII Files". A video tape was prepared describing the steps necessary to connect to the ATI Network.

IV. Internal Evaluation

A. Evaluation was ongoing throughout the project. Data sources included the advisory committee, workshop participants, and survey. (A summary of the survey is provided in Appendix D.)

B. Through the use of an advisory committee the project was able to maintain close contact with project members, and utilize field input to direct the project toward achievement of key objectives.

C. The project director and coordinator held weekly planning meetings to develop strategies for implementation, and evaluation of project goals and activities.

V. Recommendations.

A. It is recommended that another project be funded to continue the work previously started by the CAECN and to expand the scope of the project to include other areas of educational technology. Although recruiting of new project sites has been important; the major emphasis of Phase IV has been to provide additional training for existing members, improving skill levels and to develop methods to better utilize network services, computers and software resources.

APPENDIX A

CAECN PROJECT SITES
July 31, 1990

	Arcata Union HS	Condit
	Armijo HS	Head
	Del Norte High School	Bokor
	El Molino High School	Johnson
	Encinal HS	Kawaguchi
	Eureka High School	Newkirk
	Ferndale UHS	Fales
	Foothill HS	Thomas
	Fort Bragg Sr. HS	Rubin
	Fortuna High School	Meyer
	Half Moon Bay HS	Centoni
	Kelseyville High School	McCallister
	Liberty High School	Lopez
	Livermore HS	Furtado
	Potter Valley High Sch	Moore
	Rio Vista High School	Clark
	Round Valley High School	Martinez
	San Mateo Co. ROP	Hillan
	Santa Rosa HS	Wallace
	Sonoma Valley HS	Soukup
	Ukiah High School	Kimbler
	Vintage High School	Ketelson
Count:		24 25
SC	Arroyo Grande HS	DeRose
	Atascadero High School	Dean
		DeRose
	Bell HS	Kelly
		Richardson
	Canoga Park High School	Pietrolungo
	Cleveland HS	Garcia
	Coast Union HS	Negrantied
	Cuyama Valley HS	Moore
	Fillmore High School	Chedester
		Belloumini
	Francis Polytechnic HS	Randall
	Gardena HS	Vietor
	Gilroy High School	Kuntz
	Gonzales Union HS	Havens
	King City High School	Rianda
	Leland High School	Black
	Live Oak HS	Otto
	Locke HS	Slade
	Loma Prieta H S	Hartley
	Lompoc HS	Clement
	Los Angeles USD	Hanson
		Mann
	Morro Bay High School	Souza
		Orton
	North Hollywood HS	Roderick
	North Salinas High School	Meyenberg
	Paso Robles HS	Clement
		Sullivan
		Bradshaw
	Righetti High School	Nunez
		Rose
	San Benito HS	Aguilar
	San Luis Obispo HS	Allen
	Santa Maria HS	Petersen

	Santa Paula UHS	Young
	Santa Ynez Valley UHS	Fulton
	Shandon High School	Roddick
	Soquel High School	Sherman
		Zemny
	Templeton High School	Clark
		Casey
	Ulysses S. Grant HS	Wainwright
	Van Nuys Sr. HS	Knapp
	Watsonville High School	Bruno
	White Jr. HS	Nower
	Willow Glen High School	Sailors
Count:	37	47
SJ	Avenal High School	Ramay
	Bakersfield HS	Campbell
	Caruthers High School	Luker
	Chowchilla HS	Tucker
	Coalinga HS	Lucero
	Corcoran High School	Sloan
	Delano High School	Coons
	Dinuba High School	Weaver
	Firebaugh HS	Faranda
	Foothill High School	Mendes
	Fowler High School	Kellog
	Fresno Unified S.D.	Stannard
	Hanford High School	DeRuiter
	Highland HS	Lemucchi
	Kerman High School	Wilson
	Kingsburg High School	Parker
		Sjostedt
	Laton Unified	Davis
	Lemoore High School	Martindale
	Madera High School	Mattrocce
	McFarland High School	Elliott
	Mt. Whitney High School	Feaver
	North High School	Dickson
	Orosi High School	Johnson
	Reedly High School	Todd
	Regional Supervisor, Ag Education	McCabe
	Riverdale High School	Miner
	Sanger High School	Culpepper
	Selma High School	Wingfiled
	Shafter High School	Robertson
	Sierra HS	Actis
	Strathmore High School	Arnold
	Tehachapi High School	Rapp
	Tulare High School	Marinelli
	Wasco High School	Craig
	Yosemite High School	Franklin
Count:	35	36
STH	Arlington High School	Yaryan
	Bloomington High School	Jones
	Buena Park HS	Williams
	Calexico High School	Galan
	Chino Sr High School	Pitzler

	Coachella Valley HS		Wade
	Colton High School		Rhiner
	Corona High School		Lauritzen
	Costa Mesa High School		Ostrand
	Covina High School		Saude
	El Camino HS		Leach
	Escondido High School		Dozier
	Fallbrook High School		Reinstra
			Duffin
	Fullerton High School		Barrett
	Hemet High School		Fernandes
	Hemet Jr. High School		Ventuleth
	Holtville Union HS		Wommack
	Imperial High School		Piersma
	Indio High School		McBride
	John A. Rowland HS		Turner
	Jurupa Valley HS		Lesh
	La Habra High School		Miller
	La Sierra HS		Ramirez
	Moreno Valley HS		Tipton
	Mt. Carmel High School		
	Norco High School		Payne
	Orange Glen High School		Martin
	Palo Verde High School		Mullion
	Perris High School		Kreutz
	Poway High School		Stauf
	Rubidoux		Fuller
	San Marcos High School		Phipps
	San Pasqual HS		Moss
	Sonora High School		Hunt
	Sunny Hills HS		Simon
	Valencia High School		Tibbs
	Valhalla High School		Accosta
	Vista High School		Woodrow
	Westminster HS		Nakanishi
Count:		39	39
SUP	Anderson Union HS		Wold
	Bear River High School		Kemp
	Big Valley High School		Weas
	Biggs High School		Niemeyer
	Burnney High School		Ryness
	Chico Sr High School		Clarke
	Colusa High School		Minto
	Corning High School		Oilar
	Durham High School		Stevens
	E. Nicolaus High School		Pryde
	Elk Creek High School		Payne
			Close
	Etna High School		Isbell
	Fall River High School		Ducy
	Gridley High School		Dillabo
	Hamilton Union HS		Sturzen
	Hayfork High School		Rourke
	Herlong High School		Dieter
	Las Plumas High School		Scheer
			Toscano
	Lassen High School		Gifford
	Lincoln High School		McCartney

	Lindhurst High Schoo'	Hill
	Live Oak High School	Christianson
	Loyalton High School	Loveridge
	Marysville High School	Westmoreland
	Maxwell High School	Kitamura
	Modoc High School	Pahl
	Nevada Union HS	Drew
	Nova High School	Houtman
	Orland High School	Vierra
	Oroville High School	Kellogg
	Pierce High School	Rohde
	Pliocene Ridge High Sch	Helm
	Princeton High School	Ferendelli
	Quincy Jr/Sr High School	Oviate
	Red Bluff High School	Sampson
		Kimler
	Shasta District Farm	Wolford
	Suprise Valley HS	Oilar
	Sutter Union High School	Young
	Trinity High School	Rourke
	Tulelake High School	Stevenson
	West Valley High School	Oilar
	Wheatland High School	Magill
	Williams High School	Pitter
	Willows High School	Ansel
	Yreka High School	Kermen
		Kermen
	Yuba City HS	Shannon
		Carlson
Count:	46	51
CC	American River College	Black
	Antelope Valley College	Wisenberger
	Bakersfield College	Haycock
	Butte College	Holman
	College of the Redwoods	Regli
	College of the Sequoias	Dutto
	College of the Desert	Walker
	Comm College AG Specialist	Perry
	Community College of San Francisco	Duncan
	Kings River CC	Davidson
	Los Angles Peirce College	Skidmore
	Merced Community College	McCabe
		Machado
	Modesto Jr College	Alves
	Moorpark College	Anderson
	Mt San Antonio College	Visosky
	San Joaquin Delta College	Paulson
		Fritz
	Santa Rosa Jr College	Fraser
	Shasta Comm College	Duchi
		Burrows
	Sierra College	Van Rein
	Ventura College	Rodrigues
		Kleine
	West Hills College	Dale
	Yuba College	Hanson
		Michel
		Leathers

			Russel
			Faraiuolo
	Count:	22	30
TE	Cal Poly Pomona		Freeman
	Cal Poly Pomona, Ag Education		Whaley
	Cal Poly SLO,		Flores
	Cal Poly SLO		Dodson
			Kellogg
			Casey
	CSU Chico		Haupton
	CSU Fresno		Rogers
	CSU Fresno, Ag Education		Parham
	UC Davis		Leising
			Varrella
			Jaeggli
			Pershing
	Count:	8	13
SS	California Ag Tech Institute		Ennen
	CATA Executive Director		Harris
	FFA State Advisor		Munter
	Regional Supervisor SC		Stark
	Regional Supervisor Cent		Landeen
	Regional Supervisor NC		Smith
	Regional Sup., CSU-Chico Farm		Gregg
	Regional Supervisor SJ		Biggs
	Special Supervisor Ag ED		Heuvel
	State Supervisor, Ag Ed		Reed
	Vo Ag Gender Equity		Van Sickle
	Count:	11	11
	Count:	261	301

APPENDIX B

SUMMARY OF TRAINING SERVICES

NETWORK TRAINING SUMMARY 1/90 - 7/90

	DATE	LOCATION	PERSONS ATTENDING	TRAINED	DEMO'S	MILES
Total 87	12/31/87	41		68	85	6,044
Total 88	12/31/88	80		263	151	12,589
Total 89	12/20/89	165		262	169	18,560
	1/2/90	Fairfield	Jean Head	1		84
	1/4/90	Cedarville	Clayton Oilar	1		641
Start	1/16/90	Rockaway B	State Staff		8	
		Pleasanton	BJ Thomas	1		
	1/17/90	Lompoc	Jackie Jaenicke	1		
		Cuyama HS	Julie Moore	1		
	1/18/90	Santa Ynez	JoJo Fulton	1		
		Woodland H	Malcolm Sears	1		
		Corona	Corona Foothill		4	
	1/19/90	Pomona	Imperial Section	25		
End	1/22-25/90	Superior	Region Inservice	60		2,235
	1/25/90	Chico	Student Teachers			
	1/29/90	UC Davis	Student Teachers	7		
	1/31/90	Marysville	Bonnie Magill	1		
		Colusa	Ralph Minto	1		145
	2/2/90	CP SLO	Southern Region		87	754
	2/5/90	Booneville	Staff	3		304
	2/6-8/90	CP Pomona	State Staff			880
	2/14/90	Marysville	Bonnie Magill	1		
		Wheatland	Jeff Magill	1		150
	2/15/90	Lodi	Jim Clark	1		130
	2/22/90	Visilaia	SJ Region		42	380
	2/27/90	Elk Groove	Central Region		37	74
	3/1/90	Modesto	Central Region		29	168
	3/5/90	Elk Groove	Tim Hooper	1	56	
	3/7/89	Ukiaha	North Coast		12	289
	3/9/90	CP Pomona	Southern Region		18	950

Start	3/12/90	Rocklin	Sierra College	1		
	3/13/90	Hayfork	John Rourke	1		
	3/14/90	Yuba HS	Donna Shannon	2		
End	3/15/90	Loyalton	Bill Loveridge	1		870
Start	3/19/90	Chico	Student Teachers	6		
	3/20/90	Elk Groove	Tim Hooper	1		
		Sacto	American Rvr Coll		1	
End	3/21/90	Orville	Oran Roberts	1		890
	3/23/90	Palm Deser	College of Desert		15	1,080
Start	3/27/90	Bakersfld	Ralph Mendes/staff	3		
		Bakersfld	Bakersfld CC	3		
	3/28/90	Fresno	Fresno Unified		1	
		Toolhouse	Bob Actus	1	1	
	3/29/90	Woodlake		1		
End		Le Grand	Staff	6		888
	4/3/90	Rio Vista	Dereck Clark	1		96
	4/5/90	Hamilton	Janet Struzen	1		224
	4/10/90	Oakland	Cow Palace		4	168
	4/12/90	Sacto	Warren Reed		1	32
	4/17-20/90	Fresno	AATEA West Region			310
	4/26/90	Lincoln HS	Staff	2		82
	4/30/90	OrangeVale	CasaRoblesHS staff		60	72
	5/3/90	Sacto	CAVIX staff		8	37
	5/7/90	Am Rv Clig	David Black	1		68
Start	5/10-12/90	Palm Sprng	CUE Conference			
	5/14/90	No.Hollywd	Bobby Rodrick	1		
		Fr.Poly HS	Lewis Randel	1		
		ClevlandHS	Ed Garcia	1		
	5/15/90	NarbonneHS	Arnold Vosburg	1		
		Gardena HS	Heidi Veitor	1		
	5/16/90	Mt. SAC	Staff		1	
		Perris HS	George Kreutz	1		
End		Fontana HS			1	1,362
	5/23/90	UC Davis	ATPAC Meeting			

5/29-31/90	Fresno	SDE Staff Meeting			340
6/4/90	CalPolySLO	Student Teachers		8	612
6/24-29/90	SLO	CATA Summer Confer			612
TOTAL YTD		59	146	394	14,927
TOTAL PTD		345	739	799	52,120

APPENDIX C

ADVISORY COMMITTEE MINUTES

October 28, 1989

TO: CAECN Advisory Committee Members:

Chuck Carley	Warren Reed
Leroy Wallace	James Leising
Del Peterson	David Whaley
Don Pryde	Nat Jaeggli
Jean Landeen	Jeff Ennen

FROM: Nat Jaeggli, CAECN
Project Coordinator

Subject: Advisory Committee Meeting Summary of October 18, 1989.

1. Jim Leising stated that the project is to end at the beginning of the last funding period. It is important that we make contact with the schools that are still not on line. Increases emphasis on improving instruction in the classroom. Three areas of emphasis need the attention of the advisory committee.

   a. Computer Literacy.

   b. Continue to work one on one.

   c. What will happen at the end of the project?

2. Warren Reed commented the project needs to change gears from bring on more users; to the exploring the function tecnology plays in Ag Education.

3. Each of the teachers were asked to describe how they use technology in the classroom and how it has made a difference to their program.

4. Chuck Carley did have 10 Apple IIe, he now has 15 Mac SE with a laser printer and scanner. This was used by the school paper. He uses the programs Works, Excel, Page Maker and File Maker.

   a. The school wide required computer class, is taught at his school by using a Tandy computer.

   b. Teaching Ag Business-computer class. Is a second year class required?

   c. What is happening in the central region? There seems to be a lower amount of users in that section.

   d. Network needs to relearn for Mac and Works.

   e. Student teachers have helped upgrade computer skills.

   f. Agridata is too expensive to continue.

5. Leroy Wallace: Teaches a IBM Computer Lab with lots of drives, uses a laser and a scanner. He has 15 students in his Ag Businessman class. Shares the computer with the school paper. Uses word perfect 5.0. LAP's from OK. D-Base Grade-Book used on IIe.

   a. Micro grade used on IBM DTP programs many need a mouse.

   b. Many students are attracted to IBM equipment.

   c. Staff is being attracted to grading management programs using John Deere pub's and overlays.

   d. The core files have helped teachers with lesson plans. This has enabled staff to do some cross training.

6. Del Peterson: 15 TRS 80 #Md14, 7 TRS 1000 MdL's, 1 TRS 4000 Servers. 1 Network with up to 36 modes 3-com District Coordinator now able to help. 1 Information saved for individual cross training.

   a. Mike Parton using on his own.

   b. Jeff Jeffrey's wife is keeping his books. He would like to get a scanner.

   c. Trend In area - core on disk is improving usefulness.

   d. Changes in phone systems, increasing the phone lines, are causing modem problems.

7. Problems with phones and computers were discussed.

   a. Nat has been asked to check on access to the Sonoma State.

8. Fewer Ag Programs seem to be teaching computer courses.

   a. There is a need for ways to make the computer work with their programs.

      1) TIME - The computer is not a priority.

      2) MONEY

9. Inservice on Curriculum, Computers and International Agriculture are planned for some regions.

10. Some suggestions that were made in regards to inservices.

    a. Keep early in year.

    b. Day out of school curriculum.

    c. Use Field Day for training opportunities.

d. Use lesson plans as vehicles for developing computer skills.

b. Direction of training.

c. File management.

d. Department management.

e. Integration of programs.

f. 5 teachers do a demonstration of use of computers.

g. Small groups.

h. Based on equipment.

I. Curriculum Files.

J. American Farmer Degree.

K. Record Book.

L. Networking.

M. Connecting and Reconnecting to ATI.

N. 30-45 minutes.

O. Program Management.

P. File Management.

11. Questions that teachers often ask:

a. How are teachers using only one computer?

b. How to integrate 1 computer into a program.

c. How To set up a computer lab.

d. Where can I find good Grading programs.

Meeting ajourned at 2:00 pm.

APPENDIX D

SURVEY SUMMARY

January 7, 1989

To: Ray Bianchi
Chair, Technology Committee

From: Nat Jaeggli
Coordinator CAECN

Re: Regional Survey Summary

Some comments before I get into a summary of the survey results.

This survey may not be as accurate an instrument for predicting what is actually taking place in Agricultural Education Departments in California as we would have liked. What started out as an inventory of computer resources is now a sample of computing trends. This occurred partly from my inexperience in preparing questionnaires and partly from a number of people not following instructions, supervisors and instructors both. In any case, I believe the following summary of the survey results is accurate enough to allow us to draw some conclusions about computing trends in Agricultural Education Programs and prepare some general recommendations. The questionnaire was completed by 93 out of a possible 406 schools state-wide. The results of the questionnaire will be limited to the responses recorded for questions one through five (1-5) dealing with existing equipment and question seven (7) which deals with projected purchases.

DEMOGRAPHICS

With 93/93 responding to question #1: Type of school?

4% Junior High School
91% Senior High School
4% Community College

With 93/93 responding to question #2: Number of Instructors?

41% One instructor
30% Two instructors
24% Three to five instructors
4% Six to ten instructors
1% Eleven to twenty instructors

With 93/93 responding to question #3: Number of Students?

14% 25-50 students
26% 50-100 students
28% 101-150 students
16% 151-200 students
16% 201-more students

CURRENT EQUIPMENT

With 90/93 (97%) responding to question #4a: Type of Computer?

46% Apple IIe
5% Apple IIc
10% Apple IIgs (Total 61% Apple II technology)

1% Mac 512
2% Mac +
6% Mac SE (Total 9% Mac technology)

16% IBM XT (8088)
11% IBM AT (80286)
1% IBM SX (80386) (Total 28% IBM technology)

2% other (TRS-80)

With 90/93 (97%) responding to question #4b: Quantity of computers?

44% have one (1) computer
13% have two (2) computers
19% have three to five (3-5) computers
10% have six to nine (6-9) computers
14% have 10 or more computers

With 89/93 (95%) responding to question #5a: Type of printer?

86% use a dot matrix printer
4% use a laser printer
3% use a character printer (daisy wheel)
2% use a different type of printer (thermal, ink jet)

With 89/93 (95%) responding to question #5b: Quantity of printers?

67% have only one printer
11% have two printers
9% have three printers
4% have four printers
9% have five (more printers

With 54/93 (58%) responding to question #7: Projected purchases during the 89/90 or 90/91 school year?

11% plan to purchase Apple IIe, or IIc computers
22% plan to purchase Apple IIgs computers
19% plan to purchase Macintosh computers
24% plan to purchase IBMXT or compatible computers
17% plan to purchase IBMAT or compatible computers
7% plan to purchase IBM 386 or compatible computers

A total of 127 computers are expected to be purchased during the school years of 89/90 and 90/91.

CONCLUSIONS

The first three questions indicate that the respondents are fairly typical of any sample of agricultural education programs around the state of California.

Questions four and five reinforce what we have known in the past. However, what is interesting is the growing number of Apple IIgs computers. Instead of adopting a more advanced computer platform, teachers appear to be opting for a familiar upgrade of their existing equipment. It was expected that as teachers added to or replaced their existing equipment, the would do it with either Macintosh or IBM and compatible. This does not appear to be happening.

Question seven provides the most interesting results of this questionnaire. Instructors were asked to project what equipment might be purchased during the next two years.

33% indicated that they planned to purchase Apple II technology, while only 19% indicated they planned to purchase Mac's. 24% percent plan to purchase IBM XT (8088) class machines while 17% would purchase AT (80286) and 7% would purchase 80386 class computers. 57% of the teachers plan to invest in equipment that is obsolete (Apple II and IBM XT) by current bussiness standards. Although the Macintosh is not as strong in the educational market as the IBM, it may represent the wisest choice for those who wish to remain with the Apple computers. The AT class computer (80286) is currently very popular as a business computer because of speed and capacity, it will not provide access to the future software breakthroughs that will be available to 80386 and 80486 computers.

58% of the instructors who completed the questionnaire responded to question #7 and indicated that they might purchase a total 127 computers during the school years 89/90 & 90/91. If we assign an average value of $1,500 to each unit, this represents an estimated value of $190,500.00. If projected on a state-wide basis, this might represent 553 units for a value of $829,035.00. This value does not take into consideration any peripherals, printers, modems, or software which might be purchased.

RECOMMENDATIONS

The "hands-off" attitude with regards for "mandating" certain state standards has been applauded by all of us. However, with regards to computers, allowing teachers to make independent decisions about the types of equipment and software to be used in the Agriculture program has resulted in a nearly impossible situation when trying to coordinate a uniform computer activity: ie. CAECN or any computer inservice. We cannot correct the decisions that have been made in the past, but we can help teachers who are considering the purchase of new equipment. I believe it is vital that the CATA make a strong stand regarding computers and the effect this technology will have in shaping Agriculture programs in the future. With a potential investment of more than a million dollars (computers, peripherals and software) state-wide, we should be making strong recommendations and providing educational opportunities that equip our teachers to make the most appropriate decisions for their programs. Some degree of uniformity state wide will help to promote the efficent of computer technology in all programs.

I recommend three specific activities:

1) Review, update (yes, things have changed already), and re-publish the recommendations the "Technology Committee," made during CATA Summer Conference 1989 (see attached). These recommendations should be a point of discussion at all sectional meetings prior to summer conference.

2) Contact the computer industry, (Apple, IBM and compatibles) providing them a copy of the survey. Then request that they participate in some form of discussion, debate or individual presentation during summer conference.

3) I recommend that each member of the govenering board and officers of the CATA make a personal commitment to using appropriate computer technology when ever conducting CATA business. If we are going to raise expectations for the agriculture instructors in general, we should start here.

APPENDIX E

SAMPLE ARTICLES

BUILDING A COMMUNICATIONS BRIDGE

by

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Bridges can be as simple as a flatcar laid across a creek or as complicated as a span across San Francisco Bay. The same applies to file transfer between computers.

THE PROBLEM

If you just bought a portable computer with 3 1/2" drives, you may want to share files with your desk top computer which has 5 1/4" drives. You may be replacing your Apple computer with an IBM and want to convert text files (lesson plans and handouts) so that they can still be used or edited. When so many potential formats exist (Apple, IBM, Mac, 5 1/4", 3 1/2") it is often necessary to transfer files between formats. A number of commercial products allow different computers to work as a team, sharing resources such as printers, modems and drives. These products often go beyond the task of sharing files and generally come with hefty prices. What is needed is a simple "bridge" that allows file transfer between different computer formats.

THE SOLUTION

You may already have most of the "parts" you need to solve this problem and not realize it. With the addition of a null modem adaptor, available from Radio Shack for $7.95, and a serial cable, you can begin to connect two dissimilar computer together. The null modem is a unit that fools your computer into thinking it is connected to a modem and not directly to another computer. It is possible to make these connections between any combination of computers because of the universal nature of the serial port, also referred to as the RS232 port, common on most computers. These communication ports come in a number of shapes and pin configurations but, regardless of how they might look, the same functions and pin assignments are universal among computers (one of the few standards in the computer industry). For a more complete explanation of serial ports and instructions for building a null modem see PC Magazine, January 17, v8 n1.

After assembling the needed items, connect the serial cable to the serial port of one computer; connect the null modem at the other end of the cable and plug this into the other computer's serial port. You may need to use a port adaptor or gender changer to make the match. Turn on both computers, and boot the communication software. The programs for each computer need not be the same; they only need to be flexible enough to match communication parameters. Identify the serial port used (com1-4 or slot 1-6) and configure your software to match. Each unit must send and receive at the same speed (baud rate 300, 1200, 2400, 4800, 9600, 19,200)

and use the same data word format (7E1 or 8N1). The speeds available through a null modem far exceed what is commonly available through our regular modem/phone connection. Now force both computers into terminal mode (the mode you use to "talk" to other computers). If they are correctly configured you should be able to type on one computer and have it appear on the monitor of the other. Use "chat" or half duplex mode (instead of full duplex) on one computer if what is typed appears on the receiving monitor but not on the sending one. All of your communication software functions (send, receive, print, write to disk) should be available as if you were on line via the phone; however, you don't have to worry about static, phone charges or hang ups.

THE APPLICATION

The actual file transfer can now take place once the mechanics have been worked out. Text file transfer between different formats (Apple --> IBM) can only be accomplished using "text file or ASCII" transfer protocol. Program and text file transfer between similar formats (IBM 5 1/4" --> IBM 3 1/2") can be accomplished using both "X modem" and text file protocol. The documentation for your communication software can provide more specific information about file transfer procedures. By transferring files within this local environment you may gain additional practice using the many features of your communications software. You might also find this local communications link between computers a useful tool for developing spontaneous writing skills between students, very much like talking on the phone.

The use of the null modem is a simple, safe and effective method of connecting two computers together for the purposes of file transfer and limited local communication. If you have additional questions write to me c/o Agricultural Education Magazine or via AgriData/StarGram NJ502N.

References

Hummel, Shaw, "The Asynchronous Adapter and RS-232", PC Magazine, Jan. 17, 1989 v8 n1

Glossbrenner, "The Complete Handbook of Personal Computer Communications", 1985, St Martin's Press, New York

HE WHO STEALS MY HARDISK STEALS MY SOUL

by

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The phone rings, you check your watch, it's late, nearly 11 p.m. "Hello.....Yes, speaking....Yes, sure, I'll be right over". Your office has been found broken into and security wants you to identify what's missing. You know what they took; you don't even have to go. You're hoping it's not true; what a hassle. Securing your computer didn't seem important until now. The type of computer security device best for you depends on two factors: the degree of risk or danger to which your computer is exposed, and the flexibility or portability you require of a computer system.

The degree of risk involved is the danger to which your computer(s) are exposed. If you are purchasing security for an unsupervised "lab," open to students 24 hours a day, your needs will be very different than if you are securing the computer on your desk. The risk involved may be very slight if the physical security surrounding the computer is very good.

The degree of flexibility necessary after the device has been installed is a consideration to anyone who travels with a computer or uses it in a variety of situations. The types of peripherals installed also determine the degree of flexibility needed. If computers are used for a single application at one location, flexibility may not be an issue.

Security devices can be divided into 3 different groups, cables, anchor pads, and cabinets, according to their degree of flexibility and the amount of protection provided. The cable systems offer the greatest flexibility and uses. They consist of steel security pads attached with acrylic adhesives; universal anchors which attach to computers using existing screw holes in the case; and for Macs and Apple IIgs's, security adapters which lock into the security slots provided in the case. Cables are made of flexible, high strength aircraft steel with vinyl coatings and loops or shackle ends for locks. Sam Systems Inc. offers the best selection of kits and component parts for this type of system. Cost: $30-50 per system secured.

"Anchor Pads" are devices that secure your equipment to the desktop, using a series of interlocking plates, adhesives and locks. Although the equipment secured is permanently attached to the desk until you choose to release (unlock) it access to the ports and cables is retained. While the cable system can be installed by almost anyone, "pads" require greater skill. Anchor Pad International is a leader in the design and installation of security pads. Their products come with a three-year equipment replacement warranty if

their device fails to prevent a theft. Cost: $70-200 per system secured.

Cabinets or enclosures generally provide the greatest degree of security. The computer and peripherals are entirely enclosed in a steel case, leaving only a switch, drives, keyboard and monitor exposed. Slots or fans are provide for proper cooling of the computer and components. Ports and cables are also enclosed so that tampering with the equipment is nearly impossible. These devices are generally bolted to the surface of the desk or table, and can only be removed when the cabinets have been unlocked and removed. FMJ Security Systems and Anchor Pad Int. both offer a complete line of cabinets for many popular computers and peripherals. Cost: $120-300 per unit secured.

What will take for you to invest in a computer security system?

Contact the following companies for information about their products.

SAM Systems Inc.	Anchor Pad Int	FMJ Security Systems
PO Box 2339	4483 McGrath	1954 Gladwick St.
Hammond, IN 46323	Ventura, CA 93003	Compton, CA 90220
(219) 844-2327	(800) 426-2467	(213) 632-9751

The Computer of "Your Future"

by

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If you've been considering the purchase of a new computer or maybe your first, you're probably asking yourself "Which computer should I buy"? "What features should it have"?

At the annual conference of the California Agriculture Teachers Association (CATA) a group of computer using teachers met to develop a minimum basic computer standard for agriculture programs in California. These recommended standards were developed to help answer the questions, you've been asking. The answers are based on two functions, Power and Flexibility. They also address the needs of both hardware and software and provide teachers with an efficient computer system.

Power conjures up images of tire burning torque and a screaming engine. Our computers don't need that kind of excess; however they do need to work at least as fast as we do, provide enough memory for expanded spreadsheets, documents and database programs, and furnish enough electrical power for components added beyond the "standard minimum configuration". Flexibility as it applies to computers means that they can execute many different tasks equally well, without having to be redesigned or re-configured each time a different function is desired.

Hardware:

RAM - 512k-1.2 Megabyte (memory can be upgraded)
RAM (random access memory) refers to the amount of useable work space available inside of your computer. The fewer the Kilobytes (1000 of bytes) the smaller the work space. Programs being written for todays computers occupy more of the available work space, and often require more than twice the old standard 64-128K.

Disk Drives - 2 floppy drives (3.5 or 5.25)
- 1 Hard disk (40 Megabyte)
Disk drives are both storage devices and one of the links to the outside world for your computer. Two "floppy" drives allow the functions of copying disks, files and programs to be performed easily.
A hard disk allows many programs to be loaded to a single drive, making access to them nearly immediate without having to handle additional floppies. Although 20 Meg hard disks are available, the small difference in price makes the extra capacity a desirable feature.

Monitor - Color graphics w/color graphics board
A monitor is much like a window; the better the view the longer you will want to look at it. Color not only adds

another dimension to the images displayed it also adds some additional graphics standards that are not available with monochrome green or amber. Graphic standards include CGA, EGA, VGA. (Composite color monitors similar to a TV have poor resolution and should not be used for long term computing)

Modem - 2400 baud internal, "Hayes" compatible.
This component allows your computer to "talk" to other computers via telephone lines. Information in the form of text and program files can be shared using information services and bulletin board systems. The speed at which the modem is able to communicate is a function of the Baud (bits per second). The term Hayes compatible refers to the character set used to direct the functions of the modem. Most modems use this as a standard.

Printer - 200 cps, w/near letter quality feature, dot matrix
The printer like the monitor is one way of displaying the work your computer is able to do. Some printers are able to print faster (rated as "characters per second") or better quality then others. Dot-matrix printers are able to produce graphics for posters, banners, or small drawings. Also to be considered is the length of ribbon and ribbon life.

(Authors note: Processor or CPU speed could not be agreed upon without naming specific computers or excluding others. However I feel that 10 mz is a minimum operating speed that will provide most teachers with the performance necessary to operate efficiently.)

Software:

Several integrated software packages were identified that provided most of the basic functions an agriculture program might need to perform, on a daily basis: spreadsheets, word processing, database management, and telecommunications. The advantage of integrated packages is that once you have learned to operate one of the components successfully, you will be able to learn the other components easily.

"MicroSoft Works" integrates these functions into versions for both the IBM/MS-DOS and Macintosh computer systems.

Computers can become obsolete when they can no longer perform the functions we ask of them or when software demands more from the system then it is able to deliver. Two features can be built into any computer that should prevent premature obsolescence: Power and Flexibility. Although the recommended computer standards are brief, and a bit generic in nature they are the based, on many cumulative years of business and classroom computing experience. The recommendations should provide teachers with an efficient tool that aids in improving instruction, and administration of agricultural programs, while making the best use of limited school budgets.