Staff Paper

Michigan Fresh and Processed Vegetable Production Statistics
Documentation for Mainframe and Microcomputer Files

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Staff Paper 85-64 **1985**

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DOCUMENTATION FOR MAINFRAME AND MICROCOMPUTER FILES

AGRICULTURAL ECONOMICS STAFF PAPER #85-64
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This work continues the work done by Steve Cooke which is documented in "State Agrcultural Model (SAM) Manual" by Richard A. Barclay and Stephen Cooke, Agricultural Economics Staff Paper #85-33.

This documentation is in two sections. The first describes the data and programs created on the MSU Cyber 750 in the first six months of 1984. The second section describes the data and files created on the Department of Agricultural Economics' IBM-PC in the first six months of 1985. "Summary Of Selected Production Statistics For Vegetables Produced In Michigan Compared To Other Major Production States: 1960 To 1980," by Richard A. Barclay, Agricultural Economics Staff Paper #85-49, contains much of the data, graphs, and verbal summaries of the second section.

1. MAINFRAME FILES

1.1 DATA:

Data for fifteen different vegetables were collected by state, and/or region, and for the entire United States. The data included acres harvested, total production, and price. Where data was available, production and prices for fresh and processed vegetables were also included. In addition, data for ALL VEGETABLES were collected. The definition for ALL VEGETABLES changed in 1980 as the Crop Reporting Service dropped a number of vegetables from its reportings. This means that updating this series

accurately is impossible. For a list of the vegetables included before 1981 see the footnote following Table 1. After 1980 the vegetables included are: broccoli, carrots, cauliflower, celery, honeydew melons, lettuce, onions, sweet corn, and tomatoes. It should be noted that of the vegetables dropped, artichokes, brussel sprouts, and garlic, were never reported on a state by state basis which means that the existing series cannot be adjusted to reflect the new definition.

All the data were compiled from Agricultural Statistics, USDA, with the exception of two observations on green peppers for Michigan for 1959, which came from Michigan Agricultural Statistics.

Much of the data was aggregated from seasonal observations. Where there was more than one price, due to seasonal changes, price was calculated as a simple average of all seasonal prices.

Some of the data were estimated for missing values. The values were calculated by taking an average of the three values (six in total) on either side of the missing value(s). The values so calculated are: QPRCB 1971 (236800), AHPRSPB 1974 & 1975 (8100), QPRSPB 1974 & 1975 (15300), and PPRSPB 1974 & 1975 (129.5). In addition, processed cucumbers changed from being reported in bushels to tons in 1961. The observations for QPRCU, and PPRCU for 1959 and 1960 where adjusted to tons using 48 pounds of cucumbers to the bushel, a conversion factor found in Agricultural Statistics, 1962, the table for cucumbers, footnote #5.

It was not always possible to find a separate series for Michigan. In some cases Michigan was aggregated with other

states, e.g., cauliflower, while in others there were no data at all, e.g., broccoli, processed cabbage and sweet corn.

1.2. PROGRAMS:

The data are maintained within the MIVEGDATA Data Base (current cycle = 12 as of 6/15/84). There are separate programs for each commodity that calculate the regression coefficients. Each program is titled using the commodity code prefix with "REGRESS," e.g., ASREGRESS. A copy of the program for ASREGRESS is available to serve as a prototype of the sixteen programs, with some explanation of how the program is constructed. The regression program automatically loads the relevant data from MIVEGDATA, performs the relevant regressions, and stores the estimated moving averages, regression coefficents, and statistics in the SAMCOEFF Data Base (current cycle = 1 as of 6/15/84), using the relevant variable code names with an identifying prefix (see table 3). SAMCOEFF was constructed to make the output from the regression programs available for different formatting without requiring all the equations to be re-estimated. The REGRESS programs also output tables of moving averages and regression statistics.

A prototype program for a set of companion programs that would predict values for each vegetable through the year 2000, and store the predictions in SAMPREDICT Data Base exists in rough form. The procedures for the two sets of programs are the same.

Table 1 identifies the fifteen vegetables (totals, fresh, and processed), the prefix code identifying the commodity, the

states for which data exists on the data bases, and the units of measures used. The categories of TOTAL, FR, and PR refer to both fresh and processed vegetables (not calculated from two separate series), fresh production only, and processed production only, respectively. Table 2 identifies the individual state code suffixes used in the variable code name, and are the same as those used by the United States Crop Reporting Service. The last six, 60-65, were created by Barclay to identify "states" composed of more than one state. One should note that 25 is used for Maine alone (potatoes), 42 identifies either Pennsylvannia or South Caroline, depending on the commodity, and for Onions, 16 combines both Idaho and Oregon. Table 3 identifies all the prefixes used for all the commodities, e.g. AH for acres harvested. Table 4 shows the years covered by each of the time series in MIVEGDATA.

1.3. MISCELLANEOUS:

LISTDATA, and LISTSAMCOEFF are two programs that may be used to obtain a complete listing of MIVEGDATA and SAMCOEFF respectively. Before running either of these programs, one should check with Chris Wolf (Director of the Ag Econ Programming Unit) to be sure that the account number (PFN) is set up to allow over 100 pages to be printed without interruption.

If one has updated MIVEGDATA and intends to re-estimate any of the regression equations, one should be sure to increase the cycle number for both MIVEGDATA, and SAMCOEFF where appropriate, and change the SMPL statements within each of the **REGRESS programs to reflect the increase in sample size.

2. MICROCOMPUTER FILES

2.1. DATA:

The data used in the work done on the IBM-PC consisted of the three year moving averages for the years 1960, 1970, 1975, and either 1978 or 1980, whichever was available, and the estimated TIME coefficients for the fifteen vegetables downloaded from the Cyber 750 SAMCOEFF file.

2.2. FILES:

There are three sets of files on four diskettes (and their BACKUPs). Copies of the diskettes VEG PROD STATS DISK # 1,2,3, and 4 (and BACKUPs) may be obtained by contacting Dr. John Ferris, Department of Agricultural Economics, Michigan State University.

The first set consists of the data, in tabular form, and bar graphs of each data series in a Lotus 1-2-3 worksheet file for each of the fifteen vegetables. The hard copy of this data, tables, and graphs may be found in:

> "Summary Of Selected Production Statistics For Vegetables Produced In Michigan Compared To Other Major Production States: 1960 To 1980," by Richard A. Barclay, Agricultural Economics Staff Paper #85-49

Each graph is saved with its appropriate *DATA.WKS file and as a separate *.PIC file. See Tables 5 and 6 for the list of codes neccessary to decipher the file names, and Table 5 for the diskette where they can be found.

The second set of files consists of the estimated coefficients in tabular form in a Lotus 1-2-3 worksheet file for the TIME variable of the moving averages for each vegetable regressed on TIME. Hard copy of these tables may be obtained by accessing the relevant file. All the file names begin with the two letter vegetable code (Table 5) followed by TRENDS, e.g., ASTRENDS is asparagus trends. All the files can be found on the VEG PROD STATS DISK # 3 (and BACKUP).

The third set of files consists of the text files of one page summaries of the data and graphs for each vegetable that were used in Staff Paper #85-49 and the files containing this documentation. These files are all on VEG PROD STATS DISK # 4 (and BACKUP). The files use only the two letter vegetable code, e.g., CB is cabbage.

TABLE 1

CONTENTS OF THE MIVEGDATA DATA BASE

VEGETABLE	CODE	TOTAL	FR	PR	STATES INCLUDED	UNITS
ASPARAGUS	AS	I	I		CA MI WA	1000 CWT, $/CWT
ASPARAGUS	AS			I	CA MI WA	TONS, $/TON
ALL VEGETABLES*	AV	I			AR CA FL ID IL IN MD MI MN NJ NY OH OR TX WA WI	TONS, $/TON
ALL VEGETABLES*	AV		I		AR CA FL MI NJ NY TX	TONS, $/TON
ALL VEGETABLES*	AV			I	CA ID IL IN MD MI MN NY OH OR WA WI	TONS, $/TON
BROCCOLI	BC	I			AR CA OR TX	1000 CWT, $/CWT
BROCCOLI	BC		I		CA (AR OR TX)	1000 CWT, $/CWT
BROCCOLI	BC			I	CA (OR TX)	TONS, $/TON
CABBAGE	CB	I			CA FL MI NY OH TX	1000 CWT, $/CWT
CABBAGE	CB			I	NY OH WI	TONS, $/TON
CANTALOUPE	CP	I			AR CA GA MI SC TX	1000 CWT, $/CWT
CARROTS	CT	I			CA IL MI TX WA WI (IN NJ OH)	1000 CWT, $/CWT
CARROTS	CT		I		CA MI TX WA (IL IN NJ OH WI)	1000 CWT, $/CWT
CARROTS	CT			I	CA MI TX WA (IL IN NJ OH WI)	TONS, $/TON
CAULIFLOWER	CR	I			AR CA MI NY OR TX	1000 CWT, $/CWT
CAULIFLOWER	CR		I		AR CA (MI OR NY TX)	1000 CWT, $/CWT
CAULIFLOWER	CR			I	CA (MI NY OTHER)	TONS, $/TON
CELERY	CE	I**			CA FL MI NY OH	1000 CWT, $/CWT

TABLE 1 CONTINUED

CONTENTS OF THE MIVEGDATA DATA BASE

VEGETABLE	CODE	TOTAL	FR	PR	STATES INCLUDED	UNITS
CUCUMBERS	CU		I		FL MI NY NC SC VA	1000 CWT, $/CWT
CUCUMBERS	CU			I	MI NC WI	TONS, $/TON
GREEN PEPPERS	GP	I**			FL MI NJ NC OH TX	1000 CWT, $/CWT
LETTUCE	LT		I		AZ CA FL MI NJ NY	1000 CWT, $/CWT
ONIONS	ON	(STORAGE & SHRINKAGE)			CO (ID OR) MI NY	1000 CWT, $/CWT
POTATOES	PO	I			ID ME MI MN NY ND OR WA WI	1000 CWT, $/CWT
SNAP BEANS	SPB		I		CA FL MD MI NJ NY	1000 CWT, $/CWT
SNAP BEANS	SPB			I	CA MD MI NY OR WI	TONS, $/TON
SWEET CORN	SC		I		FL MI NJ NY OH PA	1000 CWT, $/CWT
SWEET CORN	SC			I	ID IL MN OR WA WI	TONS, $/TON
TOMATOES	TO		I		AL CA FL IN MI NJ OH	1000 CWT, $/CWT
TOMATOES	TO			I	CA IN MI NJ OH	TONS, $/TON

* ALL VEGETABLES INCLUDES: ARTICHOKES, ASPARAGUS, BROCCOLI, CABBAGE, CANTALOUPE, CARROTS, CAULIFLOWER, CELERY, CUCUMBERS, EGGPLANT, ESCAROLE-ENDIVE, GARLIC, GREEN PEPPERS, HONEYDEW-MELONS, LETTUCE, ONIONS, SNAP BEANS, SPINACH, SWEET CORN, TOMATOES, WATERMELONS. NOTE: THE DEFINITION CHANGES AFTER 1980. ONLY THOSE UNDERLINED ARE INCLUDED AFTER 1980. SEE PRECEEDING TEXT.

** MOSTLY FRESH

TABLE 2

NUMERICAL CODES FOR STATES AND REGIONS
(FROM THE USDA CROP REPORTING SERVICE)

STATE	ABBREV.	CODE	STATE	ABREV.	CODE
ALABAMA	(AL)	01	NEVADA	(NV)	32
ALASKA	(AK)	02	NEW JERSEY	(NJ)	34
ARIZONA	(AZ)	04	NEW MEXICO	(NM)	35
ARKANSAS	(AR)	05	NEW YORK	(NY)	36
CALIFORNIA	(CA)	06	NORTH CAROLINA	(NC)	37
COLORADO	(CO)	08	NORTH DAKOTA	(ND)	38
DELAWARE	(DE)	11	OHIO	(OH)	39
FLORIDA	(FL)	12	OKLAHOMA	(OK)	40
GEORGIA	(GA)	13	OREGON	(OR)	41
HAWAII	(HI)	15	PENNSYLVANNIA	(PA)	42
IDAHO	(ID)	16	SOUTH CAROLINA	(SC)	42
ILLINOIS	(IL)	17	SOUTH DAKOTA	(SD)	46
INDIANA	(IN)	18	TENNESSEE	(TN)	47
IOWA	(IA)	19	TEXAS	(TX)	48
KANSAS	(KS)	20	UTAH	(UT)	49
KENTUCKY	(KY)	21	VIRGINIA	(VA)	51
LOUISIANA	(LA)	22	WASHINGTON	(WA)	53
MARYLAND	(MD)	24	WEST VIRGINIA	(WV)	54
NEW ENGLAND	(NE)	25	WISCONSIN	(WI)	55
MICHIGAN	(MI)	26	WYOMING	(WY)	56
MINNESOTA	(MN)	27	IN, NJ, OH		60*
MISSISSIPPI	(MS)	28	IL, IN, NJ, OH		61*
MISSSOURI	(MO)	29	AR, OR, TX		62*
MONTANA	(MT)	30	OR, TX		63*
NEBRASKA	(NB)	31	MI, NY, OTHER		64*

*Created by Barclay

TABLE 3

PREFIX CODES FOR MIVEGDATA AND SAMCOEFF DATA BASES

CODE	MEANS	UNITS	EXAMPLE	REMARKS
AH	ACRES HARVESTED	ACRES	AHGP12	
B	BETA (COEFFICIENT)		BPCR04	VECTOR OF REGRESSION COEFFICIENTS - USED PRIOR TO OTHER PREFIXES
FR	FRESH		AHFRCU12	
MA	MOVING AVERAGE		MAAHFRCU12	PRIOR TO OTHER PREFIX
P	PRICE	DOLLARS	PCR04	
PR	PROCESSED		AHPRTO26	
Q	QUANTITY	1000 CWT OR TONS	QPRCB26	
R	R-SQUARE		RQPRCB26	PRIOR TO OTHER PREFIX
S	SUM SQUARE ERROR		SQPRCB26	PRIOR TO OTHER PREFIX
SH	SHRINKAGE	1000 CWT	SHON08	ONIONS ONLY
T	T SATISTIC		TSHON08	PRIOR TO

TABLE 4

YEARS COVERED IN THE TIME SERIES IN MIVEGDATA DATA BASE

VEGETABLE	YEARS		
	TOTAL	FRESH	PROCESSED
ALL VEGETABLES	---------	1959 TO 1980	----------
ASPARAGUS	---------	1959 TO 1979	----------
BROCCOLI	1959 TO 1981	----- 1972 TO 1981	-----
CABBAGE	1959 TO 1979		1959 TO 1979
CELERY	1959 TO 1981		
CANTALOUPE	1959 TO 1979		
CAULIFLOWER	1959 TO 1981	----- 1972 TO 1981	-----
CARROTS	1959 TO 1981	----- 1972 TO 1981	-----
CUCUMBERS		----- 1959 TO 1979	-----
GREEN PEPPERS	1959 TO 1979		
LETTUCE		1959 TO 1981	
ONIONS	1959 TO 1981	----- 1966 TO 1981	-----
POTATOES	1959 TO 1981		
SNAP BEANS		----- 1959 TO 1979	-----
SWEET CORN		----- 1959 TO 1981	-----
TOMATOES		----- 1959 TO 1981	-----

TABLE 5

CODES FOR VEGETABLE NAMES USED
AS THE FIRST TWO LETTERS IN THE FILE NAMES
AND DISKETTE LOCATION FOR THE TABLES AND GRAPHS

CODE	VEGETABLE	DISK NO.
AS	ASPARAGUS	1
BC	BROCCOLI	1
CB	CABBAGE	1
CE	CELERY	1
CP	CANTALOUPE	1
CR	CAULIFLOWER	1
CT	CARROTS	1
CU	CUCUMBERS	1
GP	GREEN PEPPERS	2
LT	LETTUCE	2
ON	ONIONS	2
PO	POTATOES	3
SC	SWEET CORN	2
SNP	SNAP BEANS	3
TO	TOMATOES	3

TABLE 6

CODES FOR DECIPHERING THE FILE NAMES FOR THE VEGETABLE PRODUCTION STATISTICS FOR MICHIGAN AND OTHER MAJOR PRODUCTION STATES FILES

CODE	STANDS FOR	EXAMPLE
AC	ACRES	ONSTAC
DATA	DATA	ASDATA
FR	FRESH	TOSHFRQ
P	PRICE	POTP
PR	PROCESSED	CUPRY
Q	QUANTITY	LTFRQ
SH	SHARE	SNPSHPR
ST	STORAGE	ONSTY
T	TOTAL	CETP
Y	YIELD	CUPRY