



# Current Report

Cooperative Extension Service • Division of Agriculture • Oklahoma State University

## OSUSWINE: Spreadsheet Program to Balance Swine Rations

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For years nutritionists have balanced rations using the trial and error technique. With the advent of the microcomputer and spread sheets, this time consuming chore becomes very simple and fast. The method used in this program is the same as if a nutritionist were balancing the ration on paper. This program was written for Lotus 123. The prospective user will have to obtain a copy of Lotus 123 or one of many similar spread sheets which can run Lotus 123 templates. To load the program place the data disk in the drive specified by your computer spread sheet instructions. When ready, load the spread sheet by typing / F R OSUSWINE. The first time user of this program can change the amounts of feed in the ration (column B rows 2-18), or the nutrient composition of individual feeds (columns C-K rows 2-18) without worrying about damaging the program. This is because the parts which are designed to be changed by the user are "unprotected" while the cells which calculations are made are protected. If the user attempts to enter something in a protected cell the program will prevent this from happening. The user must be careful that the nutritional data in the table is correct or the calculated ration will reflect any errors in the table. The prices for the feeds are entered (\$ per cwt) in column L rows 2-18. Tables 1 and 2 are example print outs of the program with Table 2 being the part just to the right of the top of Table 1.

On the screen the first part of the template looks just like a feed composition table with the feeds being in rows and each of the nutrients and cost in the columns. The exception is the second column (B) which is reserved for the user to enter the amount of each feed that is in the mixture. On the screen the area between and including column A1 and L18 make up the data table. Column B is reserved for the amount of each feed in the formula (rows B2-B18). Row 1 is reserved for column headings (nutrient names). You may change any of these at any time. The nutrient composition data in the table including feed names (A1-L1 through A18-L18) are data, and any of these values may be changed at any time. The total amount or percent of ingredients in your mixture is added up (sum) in B20. This program will figure the percentage composition even though the total in B20 may be any non-zero number (i.e. 100, 788, 4000 etc.).

Just as a nutritionist makes a table on a sheet of paper to sum up the total contribution of each nutrient on a percentage basis, this is done in columns N2-X18. The nutrients and costs are added up and the sums are shown in row 20 columns C-L. This was done so that the user can change the amount of any feed in the mixture (column B rows 2-18) and see the resulting change in the nutrient composition of the percentage mixture. In column N in rows 2 through 18, the percentage composition of the above mixture is calculated even if the user elects to formulate a batch size other than 100 pounds. Care should be taken to not disturb any of the formulas in columns N2-X18.

Below the ration is rows 22-53 is the cost of a batch and of a 100 pounds mixture, and a batch table for two sizes. The two batch size numbers are unprotected and can be any value that the user desires.

Title Lock: A title lock is placed on column A so that as the user scrolls over to the right the feed names remain at the left of the screen. If the user wants to change the name of any of the feeds the title lock must be temporarily removed. To do this type the following Lotus key strokes / W T C; this will remove (clear)the lock. After changing the names it is useful to re-establish the lock. To do this first place the cursor in column B (any row) and type / W T V.

Changing Feeds in Your Matrix: It is easy to change any feed or substitute other feeds into the matrix at the top of the page (rows 2-18). Format limits feed names to 14 total spaces (remember to remove the title lock to get to column A). When you change names in rows A2-A18 these names will be automatically changed in rows A32-A48 in the portion of the spread sheet which makes up different size batches of feed.

How to Obtain This Program: You may wish to obtain a copy on disk from: Extension Animal Science, 201 Animal Science Building, Oklahoma State University, Stillwater, OK 74078. Programs on 5.25 inch data disks for MSDOS for Lotus 123 are available if the user supplies a blank but formatted disk and return postage. Otherwise copies of this and other programs are available from most county Extension offices in Oklahoma.

Nutrient composition tables are available in fact sheet form from Oklahoma State University Extension Centers. The data shown on this program came from OSU Extension Facts #3502, "Feedstuff Composition for Swine Rations". For information on swine nutrition (animal requirements) see Extension Facts # 3500 "Swine Nutrition" or the "Pork Industry Handbook" For additional information see your OSU Area Extension Livestock Specialist or County Extension Agricultural Agent for more information.

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Table 1. Normal print out of "OSUSWINE"

FEED NAME (17)	AMOUNT	C.F.%	M.E.	Ca.	PHOS	C.P.	LYS.	TRYPT	THREO	MET+CY	COST\$
CORN YELLOW	75.65	2.50	1500	0.01	0.25	8.80	0.24	0.09	0.32	0.39	6.60
SORGHUM, GRAIN	0	2.70	1425	0.02	0.27	9.00	0.22	0.09	0.29	0.31	5.25
WHEAT, HARD WR	0	2.40	1475	0.05	0.35	12.20	0.38	0.15	0.37	0.36	6.35
FAT	0	0.00	3550	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.00
SOYBEAN MEAL,44	21.3	6.50	1475	0.25	0.60	44.00	2.88	0.55	1.87	1.22	16.00
SOYBEAN MEAL,48	0	3.00	1520	0.20	0.65	48.50	3.14	0.63	2.00	1.55	17.00
MB MEAL 50	0	2.80	1100	8.10	4.10	50.00	2.50	0.29	1.81	1.27	16.00
PEANUT MEAL,SOL	0	9.90	1320	0.27	0.61	49.00	1.45	0.48	1.37	1.17	14.00
LYSINE, 78	0	0.00	0	0.00	0.00	0.00	78.00	0.00	0.00	0.00	245.00
WHEAT MIDDS	0	7.50	1300	0.05	0.80	16.00	0.64	0.18	0.54	0.34	6.50
ALFALFA HAY	0	29.00	890	1.20	0.16	14.20	0.55	0.35	0.60	0.35	5.50
ALFALFA DEHY	0	25.00	1050	1.30	0.23	17.00	0.80	0.36	0.75	0.58	6.50
CALCIUM CARB	0.8	0.00	0	38.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25
DICALCIUM PHOS	1.25	0.00	0	22.00	18.50						14.50
DI MONO PHOS	0			17.50	21.00						17.00
SALT	0.5										2.25
VITAMIN TM MIX	0.5										75.00
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	100	3.28	1448.	0.64	0.55	16.03	0.80	0.19	0.64	0.55	8.99

COST PER BATCH \$--->> 8.99

COST PER CWT \$----->> 8.99

OSU SWINE RATION CALCULATOR, DEVELOPED BY DONALD GILL, JULY 1988

FEED NAME	PERCENT	BATCH SIZE 2000	4000
CORN YELLOW	75.65	1513	3026
SORGHUM, GRAIN	0.00	0	0
WHEAT, HARD WR	0.00	0	0
FAT	0.00	0	0
SOYBEAN MEAL,44	21.30	426	852
SOYBEAN MEAL,48	0.00	0	0
MB MEAL 50	0.00	0	0
PEANUT MEAL,SOL	0.00	0	0
LYSINE, 78	0.00	0	0
WHEAT MIDDS	0.00	0	0
ALFALFA HAY	0.00	0	0
ALFALFA DEHY	0.00	0	0
CALCIUM CARB	0.80	16	32
DICALCIUM PHOS	1.25	25	50
DI MONO PHOS	0.00	0	0
SALT	0.50	10	20
VITAMIN TM MIX	0.50	10	20
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	100.00	2000	4000

FILE NAME IS OSUSWINE

Table 2. The nutrient contribution from each feed included in the formula.

FEED NAME (17)	PERCENT	C.F.%	M.E.	Ca.	PHOS	C.P.	LYS.	TRYPT	THREO	MET+CY	COST\$
CORN YELLOW	75.65	1.89	1134.8	0.01	0.19	6.66	0.18	0.07	0.24	0.30	4.99
SORGHUM, GRAIN	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WHEAT, HARD WR	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FAT	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SOYBEAN MEAL,44	21.30	1.38	314.2	0.05	0.13	9.37	0.61	0.12	0.40	0.26	3.41
SOYBEAN MEAL,48	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MB MEAL 50	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PEANUT MEAL,SOL	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LYSINE, 78	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WHEAT MIDDS	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALFALFA HAY	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALFALFA DEHY	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CALCIUM CARB	0.80	0.00	0.0	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.02
DICALCIUM PHOS	1.25	0.00	0.0	0.28	0.23	0.00	0.00	0.00	0.00	0.00	0.18
DI MONO PHOS	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SALT	0.50	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
VITAMIN TM MIX	0.50	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38
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	100.00	3.38	1448.9	0.64	0.55	16.03	0.80	0.19	0.64	0.55	8.99



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