The Function and Application of Spreadsheets Objectives:

- The student will understand what a spreadsheet is.
- The student will learn how spreadsheets are used in agriculture.
- > The student will learn to use a spreadsheet.

What is a spreadsheet?

- > Spreadsheet = computer software program
 - > User enter numbers and text into a table
 - > Table has rows and columns
 - > Can maintain and manipulate those numbers
- Some credit Dan Bricklin, a Harvard Business School student as the "father" of the electronic spreadsheet in 1978

a. Spreadsheets = computerized grid consisting of rows and columns = cells

b. Cells can be:

- changed to any size in order to display text or numeric data
- formatted much like a Word document

c. Cells can be given a variety of borders and colors

d. Data in each cell can be formatted in a variety of ways including currency, dates, percent, or text.

el Cells can also be given a very wide variety of mathematical formulas = addition, subtraction, multiplication, and division

f. Data in cells can also be converted to graphs

g. More complex formulas can also be used to make financial, statistical, logical, and other calculations.

How are spreadsheets used in Agriculture? AGRIBUSINESS USES

Inventories

- calculate the total inventory value
- Calculate change in value from the beginning to the closing inventory

Balance Sheet

- add values for assets and liabilities
- calculate net worth and financial ratios

Budgets

- complete personal, partial, enterprise, or complete business budgets
- can be saved from year to year and changes are quick and easy

• <u>Cash Flow</u>

- advanced cell formulas
- can indicate how much and when operating loans will be needed

Financial Planning

keep track of finances like checking and savings accounts as well as investment

Interest, amortized payments, and future value can all be calculated

<u>Graphs</u>

- data and statistics can be displayed
- bar graphs, line graphs, pie charts or other displays.

Invoices

can be used to create invoices so an agribusiness can bill customers

ENTERPRISE SPECIFIC USES

Animal Science – breeding records, feeding & ration balancing, veterinary records, yield grading, efficiencies, other.

- Ag Mechanics maintenance records, bill of materials, fuel usage, depreciation.
- Agronomy chemical application (purchasing, mixing), harvest yields, soil types, fertilizer applications.

Basic functions to use Excel

- Like Word, Excel utilizes similar menu bars and icons for various operating functions.
- A grid of numerical rows and alphabetical columns create individual cells that can contain different types of data (numbers/text).
- Using the mouse you can move from cell to cell, click on menus and toolbars, scroll, resize rows and columns etc.

Basic information to use Excel

- using the keyboard you can enter data/information, tab, move with arrow keys
- a spreadsheet file or document is called a workbook – workbooks can have multiple pages called sheets.
- to save an Excel spreadsheet, just click on file and save as. Chose a file name and location.

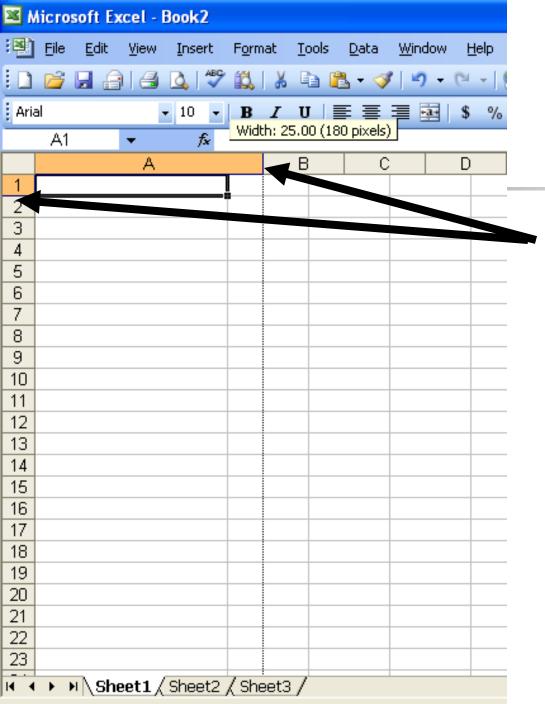
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Using the Format Menu is very important

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From this menu you can:

- Format <u>numbers</u> into currency, percent, dates, and other formats
- Format <u>alignment</u> of cell contents
- Format <u>font</u> like in Word

✓ Format <u>borders</u> of cells

Creating Formulas

- The awesome power of Excel lies in the ability to create mathematical and logical formulas in cells that automatically complete many different kinds of calculations.
- With this lesson you will learn how to use the basic math functions of add, subtract, multiply, and divide.

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14	concrete screws ($3/16" \times 2-3/4"$)	1	\$ 18.75	\$ 18.75									
15	2 × 12 × 20'	4	\$ 25.96	\$ 103.84									
16	1 × 8 × 12'	4	\$ 10.97	\$ 43.88									
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Creating Formulas

- position the cursor in the cell where you want the formula
- you can click the autosum button from the tool bar or type an equals sign (=)
- 3. The autosum button is good if you want to add a series of numbers in a column
- 4. Using the equals sign is good for any of the four basic math functions
- 5. After clicking the = sign, click on the first cell you want to use in the calculation.

Creating Formulas

- Next type a +, -, *, or / to add, subtract, multiply, or divide.
- 7. Next click on the next cell you want to use in the calculation
- 8. Last, hit enter.
- 9. The following slides are two examples of spreadsheets that use simple formulas
- 10. During the extended classroom activity time of the lesson, you will create one of these two spreadsheets.

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Have fun using Excel Spreadsheets!