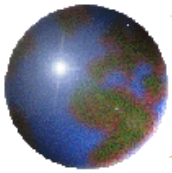
Record Keeping and Cost Classification

Parr Rosson

Professor and Director

Center for North American Studies

Texas A&M University



Overview

- The Importance of Good Records
- Record Formats and Examples
- Classifying & Allocating Costs

The Importance of Records and Farm Planning

The efficient organization and skillful operation for the use of all farm resources to accomplish the total farm goals and objectives.

The key to success is: MANAGEMENT
Doing a good job of production - not enough

Farm business management required

Important to integrate production technology with appropriate business management

Aspects Of Farm Operations

- Human Resources
- Financial Management
- Production
- Marketing

Management

The allocation of limited resources to satisfy unlimited wants

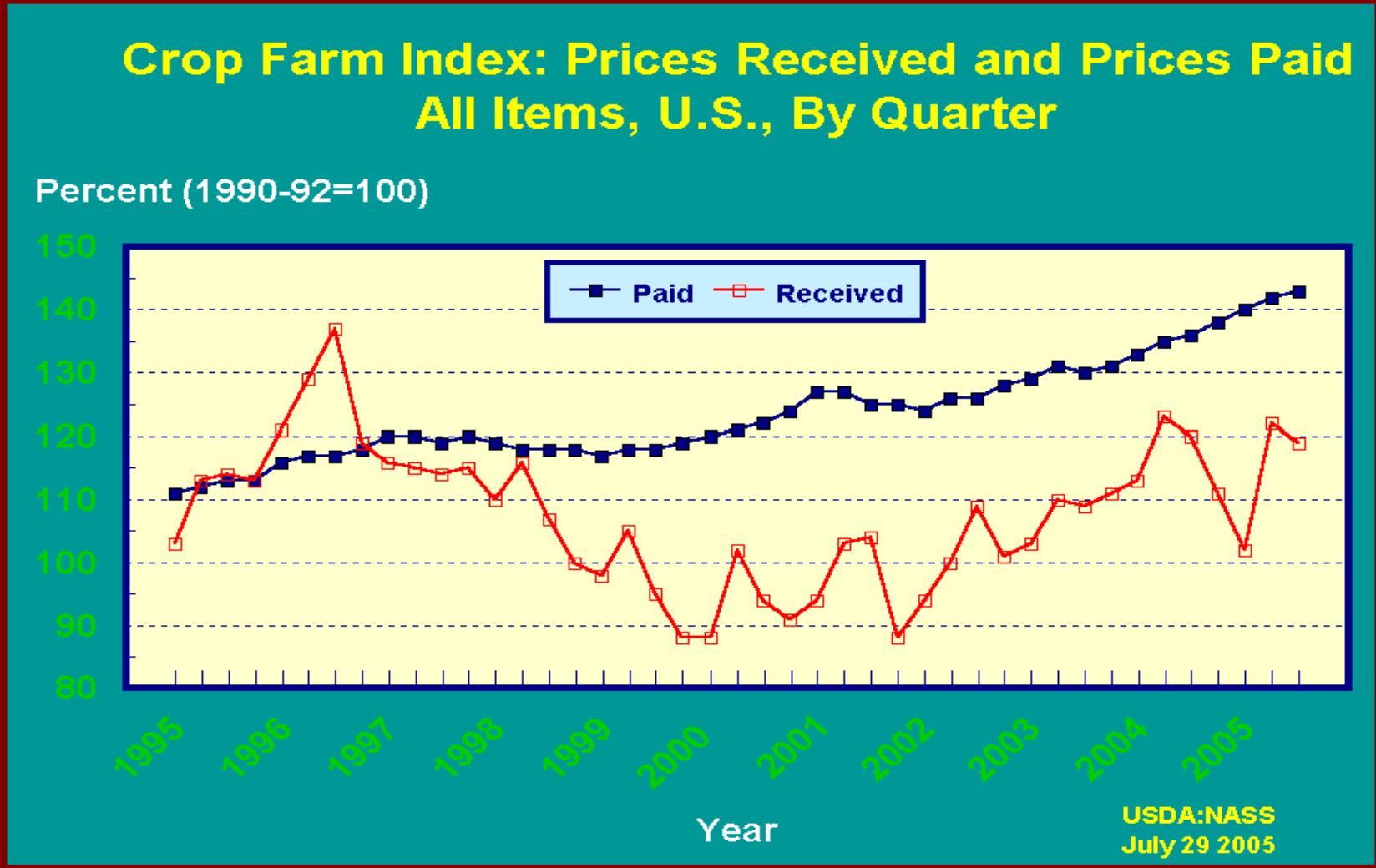
FARM PLANNING

Identifying the unlimited wants

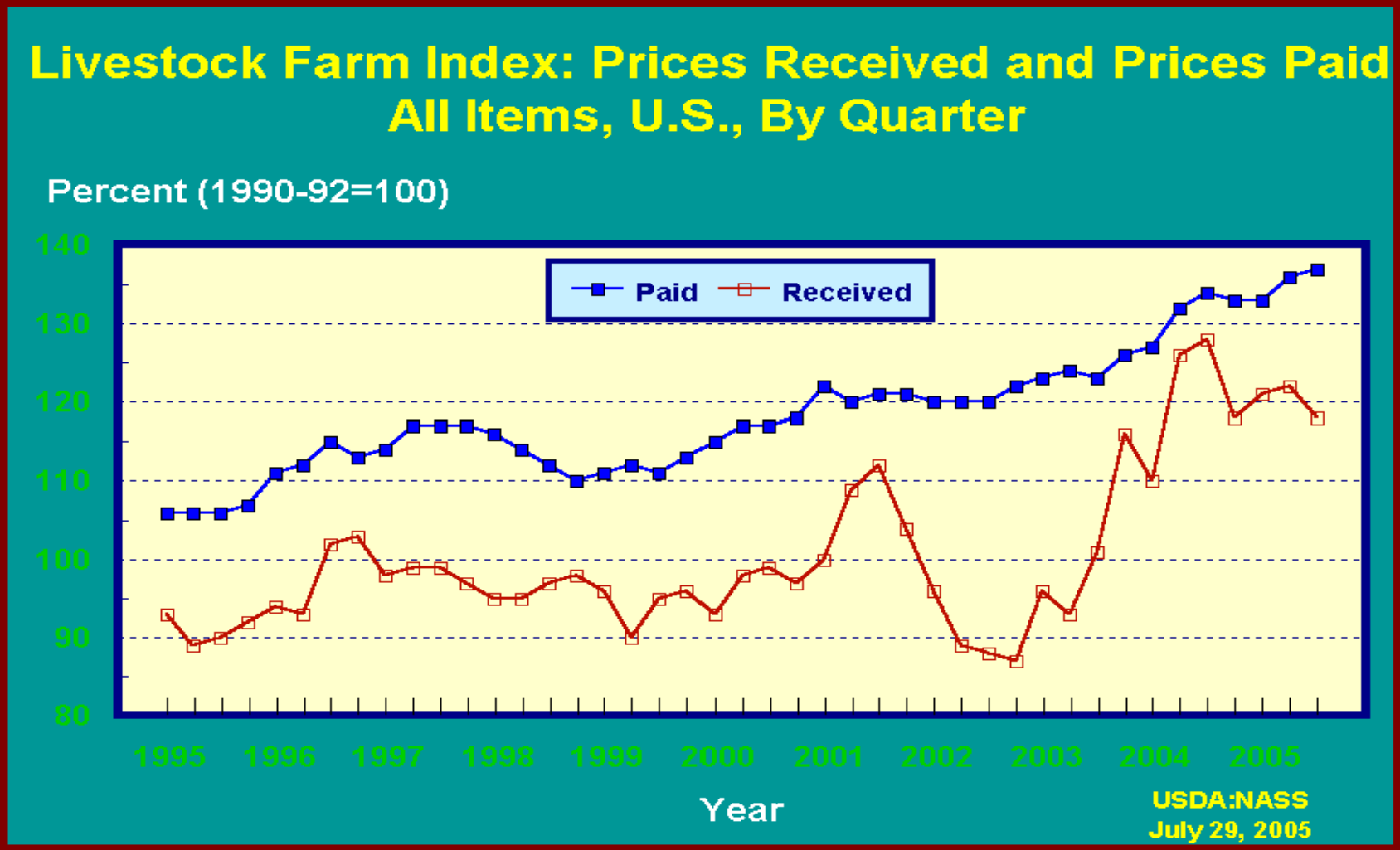
GOALS

Clearly identify reason/need to farm

Crop Farm Index



Livestock Farm Index



Farm Decision Making

Three Key Questions:

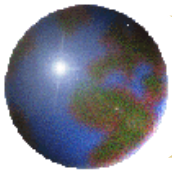
WHERE AM I?

WHERE DO I WANT TO BE?

HOW DO I GET THERE?

Why Plan?

- Dealing with Uncertainty in a Complex Market
- Help Make Difficult Business Decisions
- Farms Are Different: Goals, Resources, Opportunities



External Forces:

1. ECONOMIC TRENDS
2. COMMODITY MARKETS
3. INPUT COSTS
4. TECHNOLOGY
5. REGULATIONS
6. OTHERS?

A Farm Manager May Have Many Goals

- Maximizing income or profit
- Maximizing net worth
- Increasing the size of the business
- Minimizing labor to produce required income

A Farm Manager May Have Many Goals (cont'd)

- Maximizing production
- Preserving the farm for future generations
- Preserving jobs on the farm

Establish Objectives

Objectives are simple & measurable

- Utilize clean seed to increase yield by 20% in next two years
- Adopt technology to reduce labor cost by 25% in the next 5 years
- Increase output by 40% over the next 3 years

Farm Management Resources

Land

Labor

Capital

Technology

Management

Products

Why Keep Records?

- Source of Accurate Information
- Document Costs/Returns
- Measurement of Financial Success
- Financial Comparison With Past Years
- Aid In Making Sound Decisions

There Are Two Types of Records

- FINANCIAL-Income & Costs
- PRODUCTION-Yield, Field Operations
- They Are Combined & Discussed in this Session

Sample Records – Crop Mix

	Crop Name	Field No.	No. of Dunum	Total Production (Kg)	Yield (Kg/D0
1	Wheat	1	30	9,000	300
2	Wheat	3	40	8,000	200
	Totals-Wheat		**70**	**17,000**	**242.86**
1	Rice	2	10	8,000	800
2	Rice	4	20	12,000	600
	Totals-Rice		**30**	**20,000**	**666.67**

Cash Farm Expense Record

	Date	No.	Paid To	Payroll	Seed	Chem.	Custom	Fuel
1	15/10	2214	Fred's Seed		10,000	6,000		1,200
2	28/10	Cash		5,000			12,000	
3	11/1	2215	Frank's Seed		2,000			800
	Totals			5,000	12,000	6,000	12,000	2,000

Cash Farm Income

	Date	No	Sold To	Crops Wheat	Rice	Lvstk Goats	Sheep	Equip
1	2/10	5	Grain Co. (4.5 mt@ ID 300/mt)	1,400,000				
2	31/10	21	Farmer's Co-op (5.4 mt @ ID 370/mt)		2,000,000			
3	2/11	6	Farmer's Co-op (20 hd@ ID 25,000 ea)			500,000		
4	2/11	17	Used Equip. Shop (plow)					800,000

Decision Tools

- ENTERPRISE BUDGETS
- PARTIAL BUDGETS
- NET PRESENT VALUE ANALYSIS
- FINANCIAL MANAGEMENT

Common Aspects of Decision Tools

REVENUE & COSTS

COSTS
ARE CLASSIFIED AS:

Variable (Direct)

Fixed

Variable Costs

- Vary with number of units produced
  - Type of Field Operation
  - Type and Amounts of Inputs Used
  - Frequency of Field Operations
- Expressed As
  - Per Dunum
  - Per Hectare
  - Per Animal Unit (Head)

Examples of Variable Costs

Plowing

Seed/Seeding

Fertilizer

Irrigation (Water/Pumping Costs)

Weed Control

Examples of Variable Costs (cont'd.)

Harvesting

Insect Control

Transportation

Machinery Fuel & Repairs

Labor

Others?

Opportunity Cost

- What is Opportunity Cost? It is the value of the next-highest-valued alternative use of a particular resource.
- Also thought of as 'Benefits Received from Alternative Action'
- If you spend time going to this workshop, you cannot spend that same time at the bazaar
- So, the opportunity cost of this workshop is the pleasure you forgo by not attending the bazaar!

Opportunity Cost and Land Values

- If a farmer's land is owned, what is its true cost for analyzing profitability?
- The opportunity cost of farm land is the measure of its value as a 'rental rate'
- The farm land rent may be determined as:
  - Land Value (ID/D) X Rate of Return from Alternative Land Investments, FR=LV X RR
  - The Rate of Return is assumed to be 10 % for this example
  - This rate will vary for different types of land & for different areas of a country, based mainly on alternative uses of land

Opportunity Cost and Land Values

- So, if we know that the price of farm land is ID 187,500/D, then we can calculate the opportunity cost of land as:
  - ID 187,500 X 0.10 = ID 18,750, where ten percent is the assumed Rate of Return on land investments of similar type
- Conversely, we can calculate the land value if we know the farm rental rate, LV=FR/RR
  - ID 15,000/0.10 = ID 1,500/Dunum land rental rate
- The Assumed Return on Alternative Investments is Important to Calculate Accurate Land Values and Rental Rates for Farms

Exercise

- If you know that a 500 dunum rice farm has a market value of ID 100,000,000 and the expected return on investment in similar land is 12 %, what would you estimate the expected rental rate (per dunum) of the farm to be?
- Solution: ID 100,000,000/500 = ID 200,000/Dunum
- ID 200,000 X .12 = ID 24,000/Dunum Land Rent for Rice Farm

Fixed Costs

Do not vary with number of units produced

Remain the same regardless of how much output is produced and sold from the farm

EXAMPLES OF FIXED COSTS

Land Charges
Taxes
Fees

Fixed Costs (cont'd.)

Administrative Expenses

Manager's Salary

Equipment Depreciation

Others?

Exercise: Classify Costs

Classify as Variable Cost or Fixed Cost

Item	ID/Dunum	Cost
Seed	10,500	
Depreciation on Equip.	29,600	
Fertilizer	23,000	
Labor	13,000	
Land Rent	9,000	
Cultivation	4,500	
Harvesting	6,300	
Admin. Costs	10,000	

Cost Allocation

METHODS OF ALLOCATING FIXED COSTS

Basis of Use

Share of Gross Income

Share of Variable Costs

Exercise: Allocate Fixed Costs

Allocation of Fixed Costs

A farm produces wheat, barley and rice and has the following costs:

Office Expenses ID	300,000
Manager's Salary ID	1,800,000

You decide to allocate office expenses based on gross income and the manager's salary on variable costs

Allocation of Office Expenses (ID 300,000)

Product	Gross Income (ID)	Dunum	Share of GI (%)	Allocation ID	ID/D
Wheat	6,000,000	100	60	180,000	1,800
Barley	1,000,000	50	10	30,000	600
Rice	3,000,000	20	30	90,000	4,500
Total	10,000,000	170	100	300,000	

Share of GI is income from each enterprise divided by total gross income. Cost per dunum is each allocated cost divided by dunum for each enterprise.

Allocation of Manager's Salary (ID 1,800,000)

Product	Total Variable Costs (ID)	Donum	Share of TVC (%)	Allocation (ID)	ID/D
Wheat	40,000	100	20	360,000	3,600
Barley	30,000	50	15	270,000	5,400
Rice	130,000	20	65	1,170,000	58,500
Total	200,000	170	100	1,800,000	

Summary

-Farm Business Consists Of-

- Financial Management
- Personnel Management
- Production
- Marketing

Summary (cont'd.)

-Management Emphasizes-

- Allocation of limited resources

✓ Recordkeeping

✓ Cost Classification

✓ Cost Allocation