
SMALL FARM GUIDE TO SELECTING AND PURCHASING EQUIPMENT

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OUTLINE

- Introduction
- Asking the right questions
- Doing your research
- Sources of equipment
- Look before you buy
- Resources

INTRODUCTION

Goal Statement:

To assist small and beginning farmers to select and acquire safe and appropriate agricultural equipment that will increase their likelihood of successfully meeting their personal and production goals.



Image source: University of Delaware

ASKING THE RIGHT QUESTIONS

- What are my long-term goals?
- Why do I need or want equipment?
- What enterprises will I pursue?
- What activities are time sensitive?
- How much money do I have to invest?
- Do I have alternative?
- What size do I need?
- Who will service or maintain the equipment?
- Who will use the equipment?

WHAT ARE MY LONG-TERM GOALS?



- Why am I farming?
- How long do I plan to farm?
- Alternative uses of my equipment?

WHY DO I NEED OR WANT EQUIPMENT?



- To keep up with the neighbors
- Pride
- Time restraints
- Physical limitations

WHAT ENTERPRISES WILL I PURSUE?



- Vegetables
- Row crops
- Hay
- Orchard
- Livestock
- Wood lots

WHAT ACTIVITIES ARE TIME SENSITIVE?



- Hay production
- Crop spraying
- Planting
- Harvest

ALTERNATIVES?



- Custom hire
 - Timing?
- Manual Labor
 - Access to responsible workers
- Small implements
 - Walk behind products (tiller, hand sprayer, push planter, etc. .)

WHAT USES?



Accessories

Annual usage

- Exposure to elements
 - Medical restrictions
 - Application restrictions (pesticide application)

WHO IS GOING TO USE IT?



- Do I and/or employees have experience with farm equipment?
- Younger / older workers
- Do I and/or employees require any special considerations, such as disabilities, when choosing machinery?

ACCESSIBILITY



- Do I and/or employees require assistive devices?
- How difficult will it be to mount/dismount the tractor?
- Does the tractor have steps? If so, is the step height manageable?
- Does the tractor offer sufficient visibility for the tasks you wish to perform? If not, what can be done to decrease blindspots?

WHAT SIZE WILL MEET MY NEEDS?



- Horsepower demands
- Accessories to be used
- Weight
- Constraints
- Wheel Spacing
- Hydraulic capacity

ECONOMICS



- What is my availability to cash?
- Will new or used equipment better fit my budget?
- Do I have storage?
- Have you budgeted for maintenance and/or normal operation costs of machinery?

COST OF ALTERNATIVES



Source: Zimmer Tractor

- New?
 - Deals and Incentives
- Used?
- Own vs Lease
- Custom hire?
 - Purdue University survey of Indiana Farm Custom Hire Rates ([Link](#))

WHO WILL SERVICE OR MAINTAIN EQUIPMENT?



- Do I have the mechanical skills?
- Do I know people who do?
- Can I afford dealer services?
- What are the consequences of equipment being down?

DO YOUR RESEARCH



- Cost of accessories
- Cost to operate
- Experience of others

PURCHASE SOURCES



- Dealers
- Private party
- Auction
- Big box stores

DEALERS



- Dealers can be an excellent resource of information, guidance, a place to view products.
- Financing options are available.
- It is necessary to keep in mind dealer motives.

PRIVATE PARTY



- Front yards
- Magazine listings
- Current owners are a good source to understand equipment history involving maintenance, repairs, problem areas.
- Most people are honest, but the responsibility is yours to make an objective decision.



AUCTION



- Auctions gather many buyers and sellers in one location.
- Good purchases can be made with this buying format.
- Risk is greatest with this buying format, sight unseen is not advised.
- Implement history is sometimes unknown, therefore it is the buyers responsibility to make an informed decision before bidding.

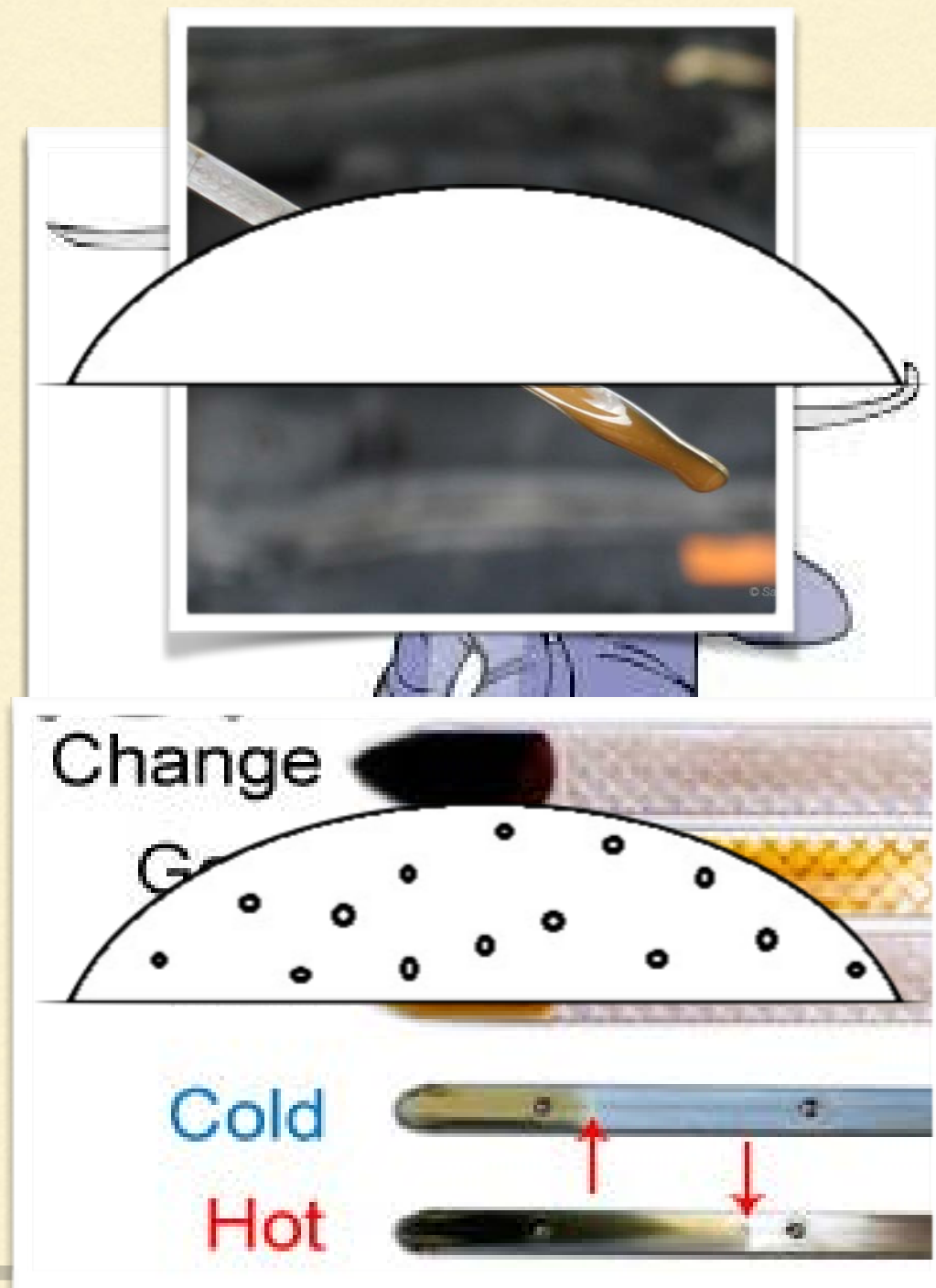


BEFORE YOU BUY



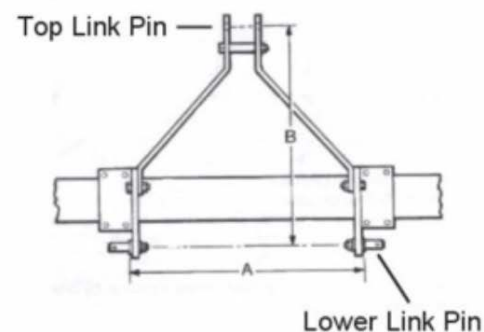
- Learn machine history
 - Where it came from?
 - What it was used for?
- Maintenance records?
(professional / self-serve)
- Known Issues?
- Accident history?
- Clear ownership?

WHAT TO LOOK FOR (TRACTORS)



- Fluids
- Leaks
- Smell
- Appearance
- Crackle test: detects water in oil up to 500ppm (0.05%) depending on type of oil

WHAT TO LOOK FOR (TRACTORS)



Hitch Category	Top Link Pin Diameter	Lower Link Pin Diameter	Lift Arm Spread (A)	Vertical Height (B)
0	5/8"	5/8"	20"	
1	3/4"	7/8"	26"	18"
2	1"	1-1/8"	32"	24"
3	1-1/4"	1-7/16"	38"	

Hitch Type:

- Hitch Categories (0,1,2,3)
- 3-point hitch, 2-point hitch (older)
- Quick hitch accessories



WHAT TO LOOK FOR (TRACTORS)



Abrasi



Glazi



- Belts: cracks, wear
- Hoses: cracks, leaks, rub locations
- Clutch: engagement, travel, smoothness
- Gears: engagement, disengagement, excessive movement, all present?
- Live PTO?

WHAT TO LOOK FOR (TRACTORS)



- Structure: noticeable welds/repairs
- Battery: age, corrosion
- Wheels: noticeable bend/wobble, “test drive”, fluid/ballast? (if yes, rim rust?)
- Tires: cracks, cuts, wear, common size?

WHAT TO LOOK FOR (TRACTORS)



- Accessories included: or previous uses (dairy farms and/or loader tractors commonly have increased wear)
- Zerk fittings: do they appear to have been used?
- Safety equipment: ROPS, seatbelt, SMV, lights, guards
- Cab: do the instruments work?, AC should be around 40 F

WHAT TO LOOK FOR (MACHINERY)



- UTV
- Post hole digger
- Mower
- Tiller
- Sprayer
- Box scraper/grader blade
- Front loader
- Planter/seeder
- Trailer



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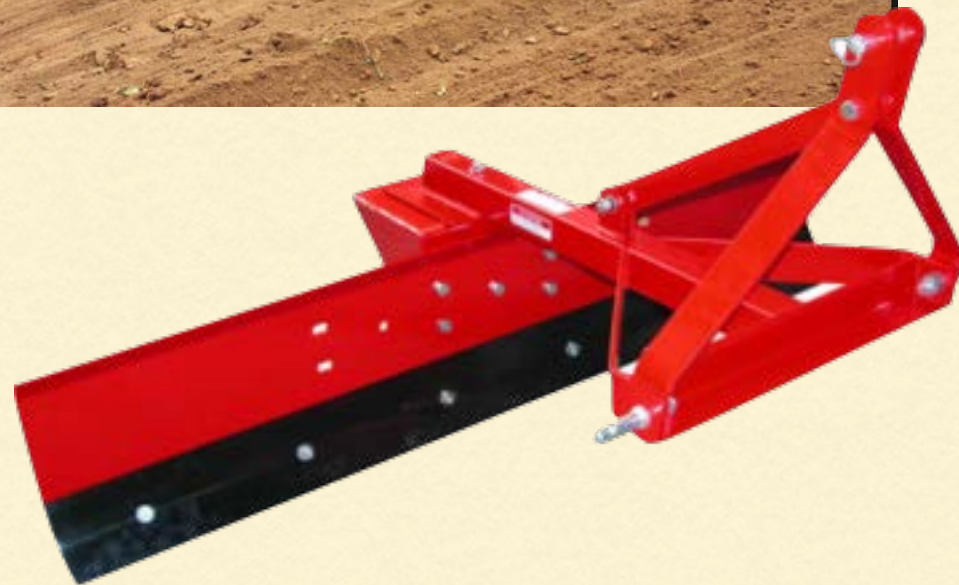
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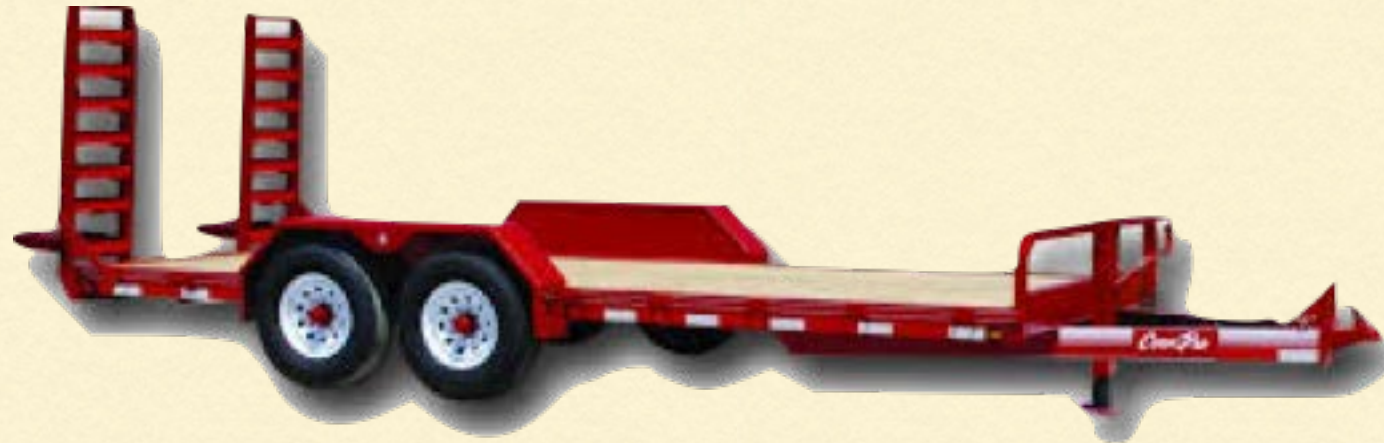
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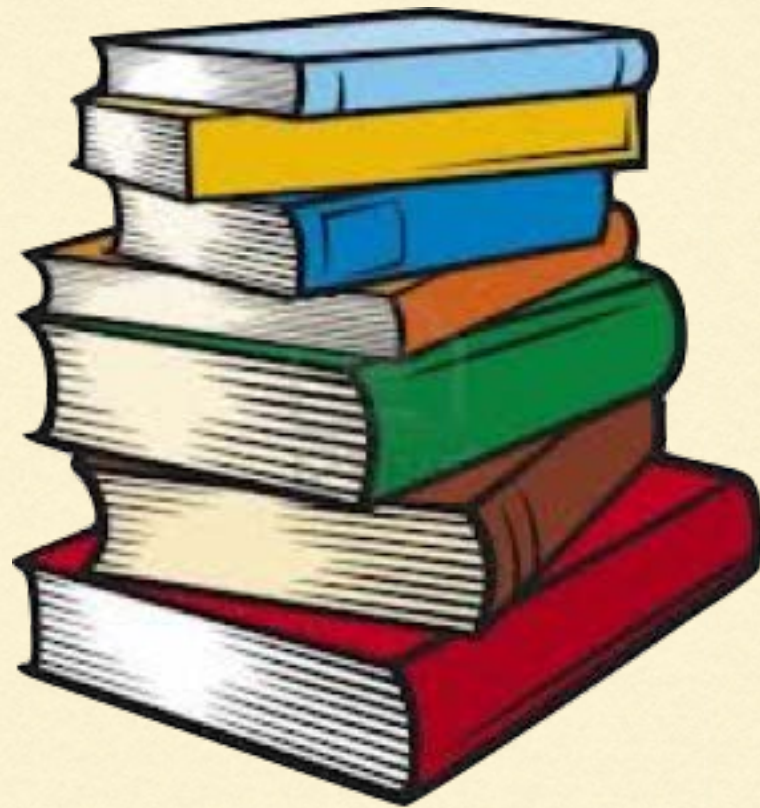
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TAKE SOMEONE WITH YOU



- A friend or family member with implement knowledge is a great asset!
- There is strength in numbers
- Avoid pooling your ignorance with others
- Don't be snookered!

SOURCES OF ADDITIONAL INFO



- UC Davis Extension: Small Farm Program ([Link](#))
- University of Missouri: Beginning Farmers ([Link](#))
- [HobbyFarms.com](#) : Tractor shopping guide ([Link](#))