




THE UNIVERSITY OF MAINE

 Cooperative Extension

Looking at Land and Equipment



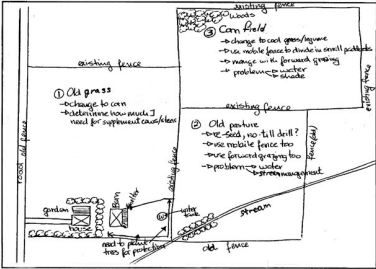


THE UNIVERSITY OF MAINE

 Cooperative Extension

Physical Resources Inventory

- Land
 - Tillable land
 - Pasture
 - Woodlot
- Water
- Buildings
- Machinery / Equipment



Homework: Farm Map with fields, fences, water, farmstead, etc.

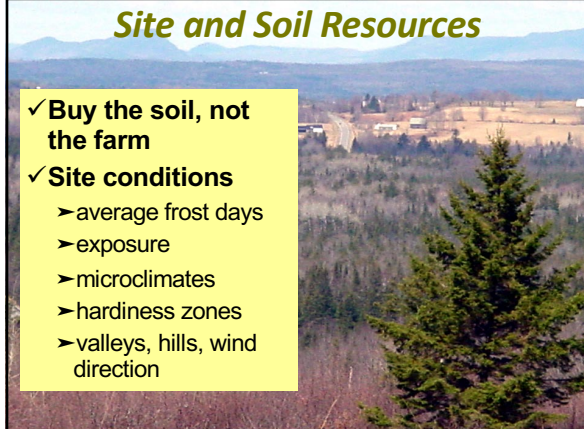
Land

- Options
 - Own
 - Operate
 - Rent
- Finding Land
 - Realtors
 - Multiple Listing Service
 - Independents
 - Farm Link
 - Land for Maine's Future
 - Maine Farmland Trust
 - Farm Service Agency
 - Finance Authority of Maine
 - Maine Organic Farmers and Gardeners Association
 - Coastal Enterprises



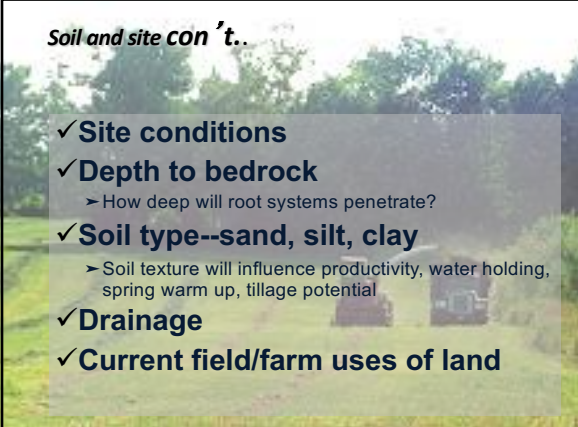
Site and Soil Resources

- ✓ Buy the soil, not the farm
- ✓ Site conditions
 - average frost days
 - exposure
 - microclimates
 - hardiness zones
 - valleys, hills, wind direction



Soil and site con't.

- ✓ Site conditions
- ✓ Depth to bedrock
 - How deep will root systems penetrate?
- ✓ Soil type--sand, silt, clay
 - Soil texture will influence productivity, water holding, spring warm up, tillage potential
- ✓ Drainage
- ✓ Current field/farm uses of land




Improving Soil/Site Conditions




What will it take to make the site productive??

- --Weed control (this is important)
- --Soil pH
 - (How much lime and how long will it take?)
- --Organic fertility vs commercial fertilizer
- --Soil organic matter
 - Is there a source of organic matter available?
 - Can you grow it?




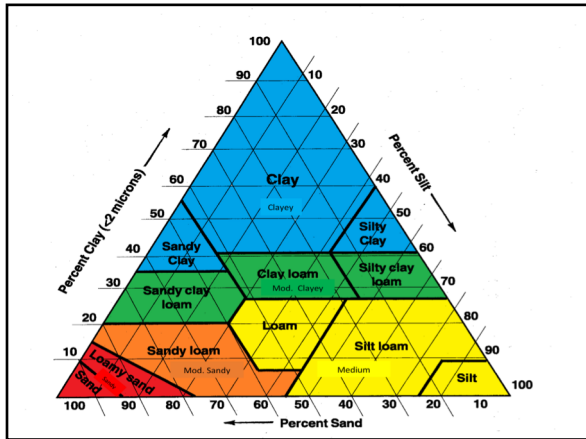
Soil Survey

- USDA soil surveys characterize soil types
- Provide gross evaluations of “quality” and suitability for certain land based activities.
- Web soil survey USDA/NRCS
- UC Davis is easier to use:
- <http://casoilresource.lawr.ucdavis.edu/gmap/>



Looking and understanding soil maps

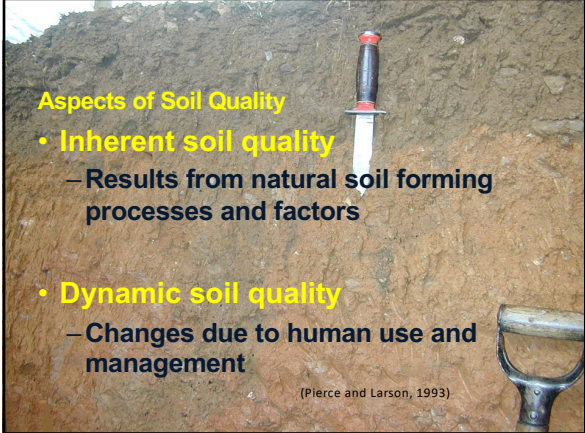
- Web soil survey
- <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>





Aspects of Soil Quality

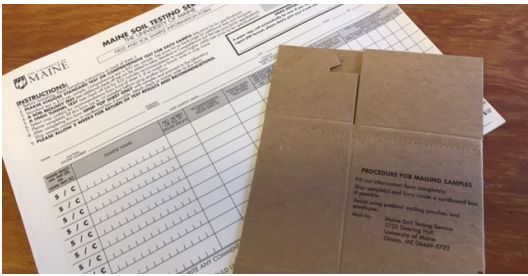
- **Inherent soil quality**
 - Results from natural soil forming processes and factors
- **Dynamic soil quality**
 - Changes due to human use and management


(Pierce and Larson, 1993)





Soil Testing for Fertility

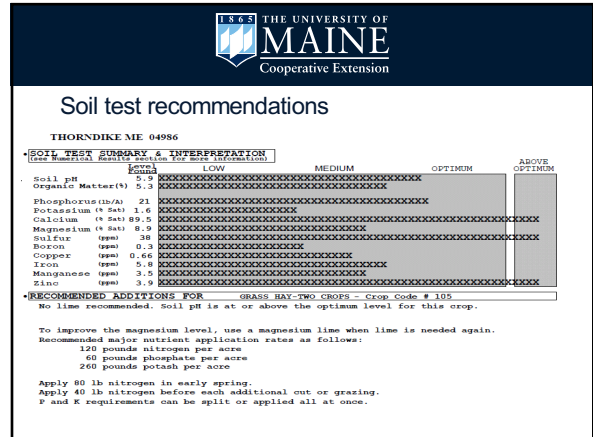
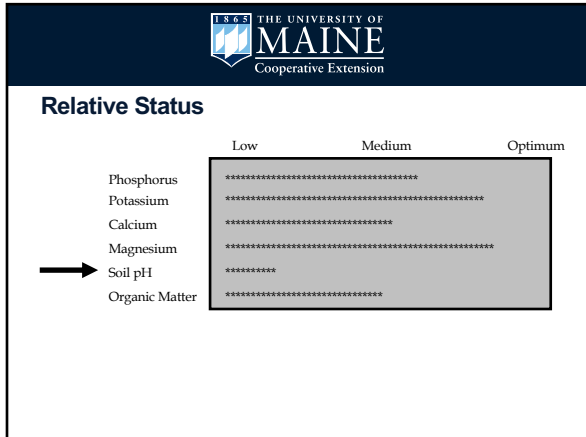




“You can’t manage what you don’t measure.”

→ **Test your soil**

- To check pH
- To monitor OM changes
- To keep an eye on P levels
- To correct nutrient deficiencies



Buildings & Facilities

- Type & size
 - Livestock
 - Storage
 - Fruit & vegetable washing, grading & packing
 - Greenhouse
 - Fencing
 - Livestock
 - Deer
 - Electric entrance
- Current condition
- Renovation / retrofit
- Build new
- Rent options

Building & Equipment

- Condition
- Size
- Suitability
- Efficiency
- Age

Homework: Inventory of building & equipment - age, size & condition.

Assessing Buildings & Equipment Purchases

- Can I afford to own?
- Will it pay for itself?
- How will it pay for itself?
- Added expenses?
- Labor or cash savings?
- Frequency of use?

Equipment....Ask the hard questions

Do you need it....or just want it?
 Will it pay for itself? How?
 Labor or cash saving?
 Frequency of use?

Is it available in another manner other than a purchase?
 Can the resource be used by multiple farmers (shared use equipment)? Does everyone need it at the same time?

Is it something that is available used or must you need to have it as "new"

THE UNIVERSITY OF MAINE
Cooperative Extension

For livestock farmers...some must have equipment

- Handling facilities

Check resources by Temple Grandin.....Colorado State University

THE UNIVERSITY OF MAINE
Cooperative Extension

Livestock Containment - fencing

Drawing 1
Energizer Installation

Simple Lightning Arrestors
(can use either)

Use at least 3 energizer grounding rods, placed at least 10' apart and in line with rod or fence line.

Ground rods should be at least 10' apart. At least one more rod than Energizer grounding rods.

THE UNIVERSITY OF MAINE
Cooperative Extension

An easy way to provide the cheapest nutrient...

- Determine daily need
- Well capacity
- Frost-free hydrants
- Pond development

THE UNIVERSITY OF MAINE
Cooperative Extension

What about livestock shelter...

- Depends on species
- If using minimal shelter, learn Body Condition Scoring (BCS) for evaluating animal well being.
- Wet, muddy animals are the ones under the most stress....

THE UNIVERSITY OF MAINE
Cooperative Extension

“Must Have” vegetable / fruit producers

- Irrigation – for moisture or frost control
- Vegetable processing and storage facilities
 - increasingly more important as food safety regulations increase
 - Wash stations...places where you and your produce can get clean and you don't mind being wet
 - Facilities for vegetable handlers to meet sanitary requirements
 - Cooling and storage...
- Greenhouse

THE UNIVERSITY OF MAINE
Cooperative Extension

Cooling and storage...one possible solution

Cool Bot
<http://www.storeitcold.com/index.html>



THE UNIVERSITY OF MAINE

 Cooperative Extension

Another "almost" necessity for vegetable producers..





THE UNIVERSITY OF MAINE

 Cooperative Extension

A few other decisions for vegetable farmers..how big?



VS



Talk to other growers about what they like or dislike about their equipment, especially if it is a unique item







THE UNIVERSITY OF MAINE

 Cooperative Extension

And for food processors.....

The Maine Department of Agriculture's Division of Quality Assurance & Regulations issues food licenses/permits, provides food inspections before and after you start your food business, and provides information about state food regulations. Inspectors are also available to conduct pre-inspections to look at your kitchen or space and to discuss ideas before you renovate.

A state food license is required for everyone who sells a food product in Maine. The two common food licenses are: a home food processor or commercial food processor license. If you are interested in selling at the farmers markets, a mobile food vendor license will be required in addition to your other food license. Food license applications can be obtained online from the Maine Department of Agriculture, Food and Rural Resources: [Licenses and Permit Forms](#). If your water source is from a well, the license application requires water test results for coliforms, nitrates and nitrites.



Stainless steel....




THE UNIVERSITY OF MAINE

 Cooperative Extension

Before getting any equipment...



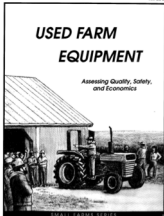
- **Affordability**
"will the price plus cost of operating, maintaining and repairing the item yield a net profit?"
- **Compatibility**
Will the item fit into your present complement of equipment resources...will it serve multiple purposes...will it fit into what you anticipate your operation looking like in a few years?
- **Dependability**
If used equipment...will you have the time and expertise to maintain and repair the item?



THE UNIVERSITY OF MAINE


 Cooperative Extension

So...some equipment buying resources




NORTHEAST REGIONAL AGRICULTURAL ENGINEERING SERVICE WMEU-42

Farm Machinery Days
for Small and Part-time Farmers



Proceedings from Farm Machinery Days for Small and Part-time Farmers
Daughen, Pennsylvania April 6, 1990

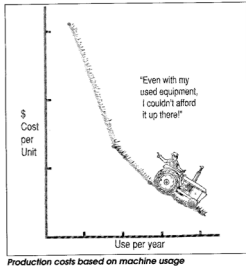


THE UNIVERSITY OF MAINE

 Cooperative Extension


Matching the job with the equipment

- important to match the tractor with the implement you will use
 - Engine horsepower rating
 - lift capacity
 - category of 3
 - Point hitch
 - Hydraulic power



Sometimes it may be beneficial to hire some work done instead of buying large equipment that you may only use for short periods of time.

Production costs based on machine usage



So should you buy, rent or lease equipment?


Rent ...

- **Pros?**
 - lots of equipment rental options available to growers for "one time" or short duration use
 - maintenance costs are minimal
 - no worries about lots of investment tied up in iron that sits for long periods of time
- **Cons...**
 - Transportation to your farm
 - Availability when you need it for small job
 - Not always the "perfect" fit for the job.



Buy or lease?

- **Buying**
 - what might you need to borrow \$\$\$?
 - lots of new "dealer incentives"
- **Lease**
 - usually similar to leasing a car
 - little or no down payment
 - terms are usually influenced by the useful life of the equipment and predicted hours of use
 - helps with cash flow for new operations
 - doesn't disturb existing loan agreements







When should you choose to purchase?


- When you need the equipment frequently
- When timing is critical
- When supply for rental units is limited or in poor condition





So you decide to purchase....used or new?


- **Used equipment...like a used car**
 - understand the risks and warning signs
 - Hours = miles
 - parts and service availability
 - safety equipment---ROPS (Roll Over Protection Structure)
 - learn all the functions...loader, remote hydraulics, 3 Point Hitch (category 1,2,3?), PTO requirements...and more
 - who will be operating the equipment?





New or used...

- How important is reliability?
- What is your ability to make repairs?
- Does the used tractor have the features you really need or are you making a compromise for cost savings?
- Sometimes older tractors have features that new ones don't!






Used tractors & equipment: things to consider

- Look for leaks and welds
- Understand the safety risks with older tractors
- Don't undervalue the need for a good loader
- Private sale vs equipment dealer
- Tractors...gas vs diesel
- Look at the owners manual: are service records available?






Spotting cover-ups

- New paint
- Glitz...why are there lots of new parts?
- Ill fitted components
- "just overhauled"
- Look at the fluids
- Run it and drive it—Have someone else drive it and watch



Excessive slag, spatter, and cracking indicate poor repair



What about specialty equipment?


Other examples...plastic mulch layer
...certain harvest tools (potato digger)

"Shared use equipment"

What is available...

- MOFGA
- Unity Barn Raisers
- Maine Grass Farmers Network
- Coastal Foods, Belfast
- Community kitchens





MFT Shared Use Equipment

Maine Farmland Trust (MFT) and Maine Organic Farmers and Gardeners Association (MOFGA) are pleased to announce a new opportunity for farmers to borrow farm equipment through our Shared-Use Farm Equipment club. Farmers can join the club for an annual enrollment fee of \$100, giving them access to equipment owned by MFT, housed and maintained by MOFGA.

This is done by:

- Paying the annual enrollment fee in full
- Attending an equipment training workshop held by MFT/MOFGA (April)
- Scheduling the use of equipment on-line or by contacting MFT or MOFGA
- Picking up the equipment at MOFGA with assistance from MOFGA/MFT staff
- Returning the equipment to MOFGA by the lending deadline

Equipment Currently Available:

- Seedbed Cultivator
- Sub-Solter (2-Shank)
- Plastic Mulch Layer

To enroll or for more info, contact:
Mike Gold, MFT
948-6575



ROPS + Seat belts saves lives

Tractor Safety is no accident....

UMaine Extension offers tractor safety classes in the spring

