Virginia Cooperative Extension

Farm Business Management Update
April – May 2007

To: Extension Unit Directors, Extension District Directors, Extension Program Directors, and Farm Management Agents, and ANR Specialists

Dear Co-Workers:

Farm Business Management Update is a joint effort of the Agricultural and Applied Economics faculty and the area farm management agents. Subject matter areas include timely information on farm management, marketing, tax management, finance, credit, labor, agricultural law, agri-business, estate planning, 4-H and economic education, natural resources, and CRD. Please use this information in your on-going Extension programs and circulate to all Extension staff. **Farm Business Management Update** is electronically accessible via the Virginia Cooperative Extension World Wide Web site (http://www.ext.vt.edu/). To see the articles listed in the reverse chronological order, select "News," then select "Farm Business Management Update" listed under the heading "Periodicals."

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Cost Control in an Era of Low Milk Prices and High Feed Prices

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Dairyman are faced with the prospect of cutting costs with corn grain prices near 10-year highs and milk prices at 25-year lows to generate positive cash flows. To reduce costs; dairymen need production and financial information which shows a structured analysis of the cost of inputs and returns for inputs. Dairymen need to know the net return to milk production for each additional pound of grain added to the ration. Most dairymen lack production and economic data to measure the cost effectiveness of adding additional inputs of grain to increase milk production. Before trimming costs, dairyman must determine the limiting factors that are holding back milk production and crop yields on their farms. The limiting factors for each farm are different.

A variety of factors limit milk production on a dairy farm. A dry cow ration that is not balanced will result in higher levels of ketosis, milk fever, and retained placentas. Metabolic problems cause the fresh cow to have lower peaks in milk production and a reduction in total production for the lactation. Poor ventilation and lack of cow comfort decreases the herd's milk production. Many dairies have installed mattresses, sand bedding, and fans to improve cow comfort which has increased milk production. Mastitis levels rise due to malfunctioning milking equipment. High NDF levels in haylage decrease dry matter intake which results in lower milk production. The incidence of Johannes can seriously reduce milk production. One or more of previously mentioned limiting factors in a dairy herd may prevent a herd from milking to its genetic potential. Generally, energy is not the limiting factor which prevents a herd from producing to its genetic potential.

Soil type is the greatest limiting factor to maximizing crop yields. Deep, well drained soils that have the capacity for water retention during the summer months have higher production capabilities than heavy clay soils. Soil pH maybe second the greatest limiting factor in crop production; therefore, regardless of whether nitrogen, phosphorous and potash are applied to the soil soils with pH levels below optimal levels the result is unprofitable yields. Liming to achieve optimal soils pH levels will lead to profitable use of the existing levels and applied nutrients.

Dairymen need to take into account several considerations when reducing costs. First, they need to determine the limiting factors for each enterprise. Second, can the manager measure the decline in revenues when an input is reduced? If feed costs are reduced: what is the decline in milk production? Due to the variability of rainfall from one growing season to the next and within a growing season; it is harder to measure the cost effectiveness of reducing inputs in crop production. When reducing costs, producers need to generate sufficient returns to cover fixed costs, e.g. insurance, taxes, and debt service.

Dairymen need to look at the big picture as they cut costs. They need to ask themselves the following questions:

- ✓ What percentage of total expenses is this expense?
- ✓ How does this expense impact profitability?
- ✓ I**f an expense is reduced; what return is given up?**

- ✓ **W**hat are the largest expenses on the farm, e.g. feed, labor?

Dairymen's largest cost, feed makes up approximately 60% of total cash costs of producing a hundred weight (cwt) of milk. Therefore, if total cash expenses are $12 per cwt, feed costs are $7.20 per cwt. A 10% reduction in feed cost will lead to a $0.72 reduction in cash costs. Conversely, stopping a practice that makes up less than 2% of total cash costs could lead to a reduction in milk output greater than the reduction in costs. Examples of these minor costs are DHIA, reducing herd health visits, reducing or eliminating herd vaccination programs, foot baths, hoof trimming, silage inoculants, forage testing, time to check forage dry matter, soil testing, reductions in bedding in freestalls, calving pen and hutches, and genetics. Postponing and increasing intervals for scheduled maintenance can reduce the productive life of farm equipment. Dairymen need to evaluate reductions in minor costs that can significantly impact the bottom line of their businesses.

Cost reduction is a difficult task for dairymen because every farm is different. Dairymen need to determine the limiting factors for production on their farms. Can they measure the decline in revenues when an input is reduced? Dairymen need to remember Ben Franklin's adage "Do not be penny wise and pound foolish" when evaluating decisions that impact the profitability of their businesses. Best wishes for a safe and profitable 2007!

Farmers' Market Manager Listserv Launched

By Denise Mainville (mainvill@vt.edu), Assistant Professor, Agricultural Marketing, Department of Agricultural and Applied Economics, Virginia Tech

Currently, more than seventy-five farmers' markets are located in Virginia, and the number keeps increasing. Consumers seek out farmers' markets because they offer a variety of high quality, fresh products, as well as an intangible connection to rural communities and tradition that they are nostalgic for. Producers likewise appreciate farmers' markets because they provide an established infrastructure and customer base for selling their products, enabling the establishment of a sustainable market base and higher revenues. As the number and popularity of farmers' markets grows, their efficient, productive, and profitable operation becomes ever-more important.

This popularity and growth is a challenge for several reasons, one being that there is no standard "model" for farmers' markets. In fact, farmers' markets are very diverse in their design and organizational structures, scope of activities, and management. At the same time, farmers' market managers tend to keep very busy with the day-to-day management of their farmers' markets, as well as other responsibilities such as their own farming operations or a full-time job on the side. This makes it harder for farmers' market managers to communicate with one another and learn from the experiences and viewpoints of their colleagues throughout the Commonwealth. Lacking a convenient way to communicate, many farmers' market managers are relatively isolated in their management activities.

A step towards resolving this constraint has been the establishment of a Farmers' Market Manager listserv by Denise Mainville, a Specialist in Virginia Cooperative Extension. Working

with Ms. Kimberly Jukes, an undergraduate in Agricultural & Applied Economics who is undertaking a research project on farmers' markets, Mainville established the listserv after becoming aware of the communication limitations that farmers' market managers face when she contacted them as part of a research project on specialty crop markets. When surveyed informally about their interest in a listserv, across-the-board farmers' market managers were enthusiastic. The listserv, established in late March, is intended to provide a forum for communication among farmers' market managers—to share experiences and ask questions, to teach and to learn, and even for day-to-day communications as simple as "My farmers' market needs sweet corn vendors!"

If you are interested in being part of the listserv, please contact Ms. Kimberly Jukes (jukes@vt.edu). For questions or further information, please contact Dr. Denise Mainville (mainvill@vt.edu) at (540) 231-5774.

Can Appomattox County Support a Farmers' Market?

By Eric Eberly (eeberly@vt.edu), Extension Agent, Farm Business Management, Central District

A farmer's market has operated within Appomattox County with intermittent success over the past 25 years. Since a market is not currently in operation, consumers have expressed interest in re-establishing one. The Appomattox Extension office conducted three surveys in March 2006 to help determine the need to re-establish a market. These surveys attempted to address the needs of the farmers (vendors), business community, and consumer clientele. This article will address the interest of the consumers in purchasing goods from a farmer's market.

Demographics: Appomattox County is a rural county in Central Virginia with a population of 13,705 according to the 2000 census. The median age is 39.1 years with 75.3 percent of the population being between 18 and 65. The median family income is $ 41,563 with 8.7% of the population living below the poverty level. Eighty-one percent of the families own their own home.

Procedure: A list of all county land owners was obtained from the Commissioner of Revenue's Office. This list was reviewed and all invalid and duplicate addresses were removed. The list was sorted by zip code then alphabetically and all addresses with a non-Appomattox zip code were removed. The remaining addresses as sorted were assigned a number from 1 to 7. The survey was mailed to every 2nd and 5th address on this list (approximately 1,200). Four hundred eight (34%) surveys were returned and summarized.

Summary: Survey summaries imply an adequate consumer demand to support a farmer's market within Appomattox County. Knowledge of consumers' preferences allows growers to plan production, pricing, and marketing strategies more efficiently. Additionally, the survey results will assist market organizers in determining a strategic location for a future market.

Consumer interest survey questions and response summary

Question 1: Have you ever been to a Farmers Market? (93%) YES (7%) NO

Question 2: If a Farmers Market would be located in Appomattox County, where do you think it should be located?

A. No Preference or not marked	34%
B. Downtown Appomattox	29%
C. On Route 460 Business in the Town of Appomattox	19%
D. On Route 460 West of Route 26	10%
E. On Route 24 North of Route 460 Business	4%
F. Outside of the town of Appomattox	4%

Question 3: In general, would you prefer to purchase items on the weekend (77%) or weekday evening (23%).
If weekday evening, which evening would you prefer to make a purchase?

Friday	60%
Thursday	18%
Wednesday	10%
Tuesday	9%
Thursday, Friday	7%
Monday	3%
All Evenings	2%
Tuesday, Thursday, Friday	1%

Question 4: What type of products would you like to buy at a Farmers Market?

Vegetables	17%
Fruit	15%
Bedding Plants	14%
Baked Goods	11%
Honey	9%
Eggs	8%
Organic fruits and vegetables	8%
Cut Flowers	7%
Meat Products	5%
Other products	7%

Question 5: How far would you be willing to drive to get to a farmers market?

10 to 20 minutes	32%
From 1 – 5 miles	30%
Greater than 5 miles	19%
Less than 10 minutes	9%

Greater than 20 miles	8%
Less than 1 mile	2%

Question 6: Tell us a little bit about yourself.

Gender	
Female	57%
Male	36%
Both responded	7%
Age Range	
Between 51 and 65	39%
Between 26 and 50	28%
65 and older	32%
25 and younger	1%
Where do you live?	
Live outside of town	87%
Live outside of county	4%
In town of Appomattox	8%

Results of the survey will serve as information for the county as they consider establishment of a farmers market in the area.

The Management Calendar

By Gordon Groover (xgrover@vt.edu), Extension Economist, Farm Management, Department of Agricultural and Applied Economics, Virginia Tech

Selective information available that might be useful:

- Market outlook information for grain and livestock producers can be found at 2 sites. Our own Mike Roberts writes weekly outlook report. It is published on Mondays and is found at http://www.ext.vt.edu/news/periodicals/roberts/. On Fridays Emmit L. Rawls and Delton C. Gerloff publish the newsletter *Tennessee Market Highlights* at http://economics.ag.utk.edu/tnmkt.html.

- The price of energy has a tremendous impact on the overall profitability of farm business, e.g., price of diesel fuel, fertilizers, pesticides, transportation, and so on. Kevin Dhuyvetter (Professor and Extension Specialist, Farm Management, Kansas State University) has followed the trends in energy and their effects on agriculture. He has regular posts and articles on "Energy Prices," a web site found at http://www.agmanager.info/energy/. To get monthly updates on projection for anhydrous ammonia and diesel fuel prices take a look at his article "Futures-Based Price Forecasts

for Anhydrous Ammonia and Diesel Fuel" found at http://www.agmanager.info/energy/PriceForecasts.pdf .

- Winners and losses: The prospects for higher grain and oil seed prices create happier times for grain producers and sadder times for livestock producers. Remember that profits are maximized when the value of the last unit of an input equals the value of the increase in the yield. What do we draw from this basic premise of economics? In the case of grain producers, as the value of the grain or oil seed increases, additional inputs can be used. In addition, previously allocated to less profitable crops can be planted in corn or soybeans. Obviously, most of Virginia's grain production is dry land and yields are dependent on adequate rain fall. Prices must be locked in via a sound marketing plan. Use your crop yield data from production records, soil test information, fertilizer histories of each field, and consult with your extension agent for potential published field plot yield data that might shed light on yield responses. A note of caution about the happier times, remember that decisions you make now based on adequate cash flow and profitability will determine the outcome when grain prices decline. Make sure that all long-term investments are feasible at long-term average prices.

  In the case of livestock producers, as corn prices bounce around $4.00 per bu., the reverse is true. Livestock producers will need to reduce the level of energy supplements to achieve the most profitable levels of milk production or weight gain. This feat is easier said than done. Yet continuing to feed grain at the same level with no change in output or an increase in milk or cattle prices clearly will result in less profit. As with the grain example accurate production records will help managers make educated estimates (guesses) of the profitable levels of concentrated feeding.

- Fifth District Federal Reserve Bank of Richmond publishes newsletter highlighting credit condition in agriculture. The quarterly publication is title *Agricultural Credit Conditions* and can be found at http://www.richmondfed.org/research/regional_conditions/agriculture/index.cfm

- Farm Bill information: Information on the 2007 Farm Bill can be found at the USDA Economic Research Service at http://www.ers.usda.gov/Features/FarmBill2007/.

- Organic Farmgate and Wholesale Prices: USDA Agricultural Marketing Service has a data set listing farmgate and wholesale prices for select organic and conventional produce items for the Boston and San Francisco markets. These are not necessarily in our backyard, but the Boston data do give us tends in vegetable and fruit markets on the East Coast at http://www.ers.usda.gov/Data/OrganicPrices.

Listed below are the items that need to be included on the farm business managers' calendar for spring of 2007.

- Make sure your Virginia state income taxes are post marked by May 1.
- Review first quarter livestock records and compare them to last year's; look for problems and successes.

- Follow-up with your lender to review and update your line-of-credit needs.
- Prepare a crop record keeping system for a new year. If you do not have a crop record keeping system, consider purchasing the Doane's hand-kept crop and machinery notebook, "Field and Equipment Record Book." This notebook provides an inexpensive way of getting started. It can be ordered via the Internet at http://www.doanebookstore.com/ or by (800) 535-2342, Extension 220. The price is less than $20.00. For a selection of computerized crop record keeping software, take a look at the Agricultural Software Directory from Alberta Agricultural Food and Rural Development site: http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/econ4118?opendocument
- Update your marketing plan by collecting information on prices and world market situations. Be sure to check with your local Farm Service Agency for changes in government programs and signup deadlines. Review USDA and other crop and price forecasts. All USDA reports are listed on the internet and can be viewed by going to Agency Reports on the USDA newsroom page or visit www.usda.gov/news/releases/rptcal/calindex.htm.

When you buy a computer…

By Carlyle C. Brewster (carlyleb@vt.edu), Associate Professor, Department of Entomology, Virginia Tech, and Karen Mundy (karenm@vt.edu), Rural Economic Analysis Program, Communications Specialist, Department of Agricultural and Applied Economics, Virginia Tech

You're doing your research to decide what computer is best for you. Should you get an IBM-compatible PC (or simply PC) or a Mac, and having decided, should you get a desktop, notebook, laptop, or tablet? Then you look at the specifications and scratch your head because you don't have a clue what they mean. How do you decide? The following discussion centers on PCs since some of the components and terminology (e.g., operating system) would be different for a Mac.

The Central Processing Unit (CPU) or computer

The first question to answer is, "What are you going to use it for?" Is it just for financial recordkeeping? It is for financial recordkeeping and downloading information from monitoring systems around the farm? Do you want internet access? You also need to decide if you want a desktop, which is stationary; a laptop, which can go almost anywhere; a PC tablet that allows you to write on it and your writing is transformed into a text document; or a notebook, which is bigger than a laptop but just as portable. Each of these has its pluses and minuses. A desktop can take up a lot of room and isn't easily moved.

You go to a manufacturer's website (HP, Dell, Gateway, Sony for a PC, or Apple for a Mac), it doesn't matter. You find that they start at a range of prices. To get started you just pick one to click on and you get something similar to Figure 1.

You ignore the "Great for" and go to the choices under the operating system. The operating system is what manages the hardware and software on the computer. You can choose Vista Home Basic, Vista Home Premium, or Vista Ultimate. Vista is the new Windows operating system from Microsoft. Home Premium is probably the best choice for most users, but you may never use it to its fullest.

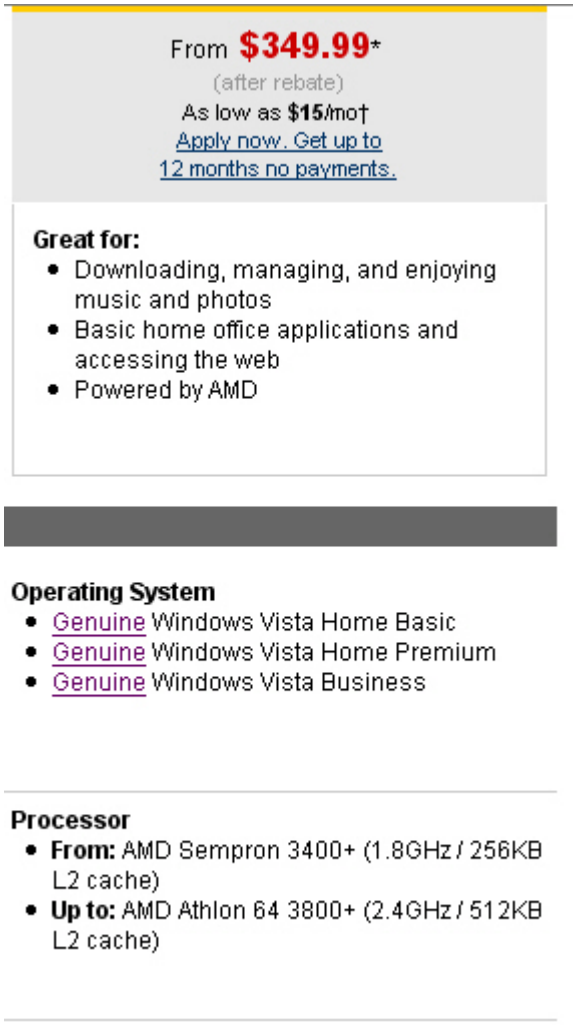

Figure 1. Computer specifications overview for an HP computer

Next you see Processor, which refers to the Central Processing Unit, the brains of the computer. You do some more head scratching. From? Up to? And what does all that stuff mean? You go back to the picture and click on the series name and then "Specs." Now you have even more choices and decisions to make. What you really care about here is the GHz (gigahertz), which is the speed at which the computer will run (Figure 2). The L2 cache is for short-term data storage while you're working. If two processors have the same GHz, the one with L2 cache is generally better. Dual-core means that the processor has 2 independent microprocessors, each with a cache. The dual-core is more suitable for multitasking and programming tasks. In the processor

specs from some manufacturers you may see something like this: 1.86GHz, 800 MHz FSB. The higher the FSB (Front Side Bus) the more efficient should be the performance of the processor.

Figure 2. Processor information

You've always been told that memory is important in a computer. But again, the language doesn't make a lot of sense. Furthermore, you know that cache has to do with memory. Is this memory they talk about something else? The answer is yes. Again the question is what are you going to use the computer for? If you are going to upload or download images, you want more memory than if you're just going to deal with text-based files. The more memory the computer has the more programs you can run simultaneously and the faster these programs will run. For most uses 1GB (gigabyte) of memory is quite adequate (Figure 3). The DDR2, dual-channel, and SDRAM simply refer to a special type of memory, which is commonly shipped with most PCs. As such, for the computer described here, you probably want to go with the 1GB and just forget about the rest of the information. But, more memory costs more. So, if you're not going to use it, why pay extra for it?

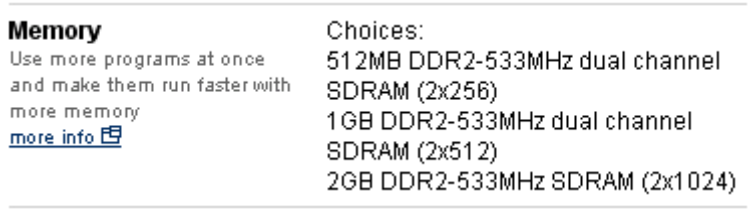

Figure 3. Memory

The hard drive is where all the computer programs and your data reside (Figure 4). As with memory, the more you get, the more you can store. But at some point you've reached over kill. Unless you're doing really sophisticated data analysis with large data sets, 100GB should be sufficient. The 7200 rpm refers to the rate at which data are transferred. If storage space is not a critical issue then special attention should be paid to the rpms of the hard drive. So if, for example, you have a choice of 250GB with 5400rpm and 160GB with 7200 rpm, select the latter. SATA simply refers to the type of cable that carries the information around your computer.

Figure 4. Hard drive

Personal media drives are external to the computer. You can use them to backup your data. Like the hard drive, you probably wouldn't need a drive that is more than 160GB and 7200 rpm (Figure 5).

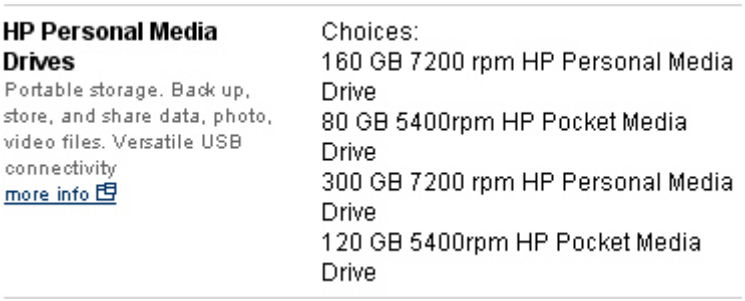

Figure 5. Personal media drives

Music and movies come on CDs and DVDs. You can store information—financial, pictures, music—on CDs. You might consider a combo CD-RW/DVD-ROM drive (Figure 6). The RW tells you that the drive can write, rewrite, and read data to and from a CD or Compact Disc; the ROM says that the drive can only read data from a DVD or Digital Versatile Device. That is, you can watch movies, but you cannot record movies with this drive. The numbers (48x32x16x48x) tell you the maximum transfer rate of the device with respect to CD write, CD rewrite, DVD read, and CD read, respectively. Keep in mind that the order in which the numbers are listed are specific to the drive in Figure 6 and may be listed differently for a drive supplied by another manufacturer. So be sure to look closely at the specifications of the drive you plan to buy. If you want to record your own DVDs you might consider the 16xDVD+/– R/RW option (Figure 6), but this costs more. With this drive you can read data, play movies, and record to most CD and DVD media. No one seems to be able to give a good explanation for the +/– but this seems to be related to the ability of the drive to read from and write to different types of CD and DVD media; a + drive may have problems with – media, and vice versa. Your best bet then is to get a drive that is compatible with both media types, i.e., one with a +/– label. As far as the software goes, unless you're planning on doing something fancy with your CDs, stick with what's least expensive; you'll probably never use that to capacity much less more. You can also add a secondary CD/DVD drive. You may not have any choice in the specifications for that, but the same rules would apply to the secondary drive as to the primary one

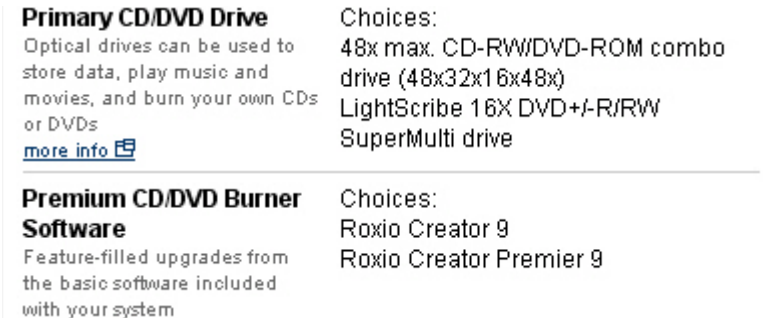

Figure 6. CD/DVD drive and burner software

If you have a digital camera, Palm Pilot, PDA, or other data device that's separate from the computer but which you can hook up to the computer, you want to have USB ports that are

easily accessible (Figure 7). This one has five USB ports on the front of the computer as well as a place to plug in a headset.

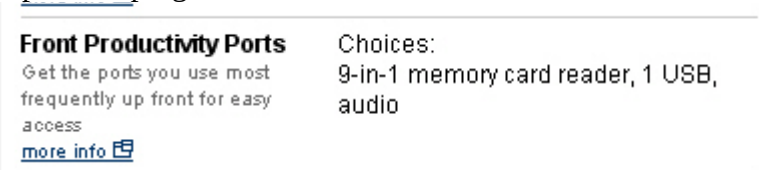

Figure 7. Front productivity ports

Networking in this case is all about the internet. Assuming you have access to the internet either through a dial-up connection, cable, DSL, or wireless you want to be sure your computer can be connected to it. If all you have in your computer is dial-up capability, you can't access information quickly. Dial-up is REALLY SLOW. Most desktop and laptop computers today come equipped for both dial-up modem and cable connections. Desktop computers generally do not come with wireless, but this option can be added using a USB-connected wireless adapter. While it may cost you more, having wireless capability is probably worth the additional cost. When you look at the wireless networking information (i.e., 802.11 b/g), you want to be sure you have at least a "g" (Figure 8). Any others lower than "g" are fine, but not necessary. With a wireless card, you can make your computer wireless in your home by adding a router.

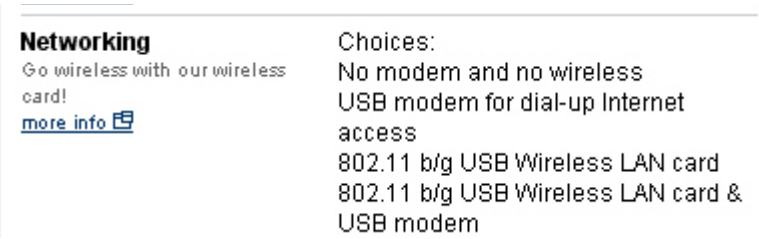

Figure 8. Networking

Monitor

Typically, monitors are sold separately from the actual computer, unless you buy a laptop, notebook, or tablet. For desktop computers, you have a choice between a Cathode Ray Tube **(**CRT), which similar to what you will find on most televisions, and a Flat Panel or Liquid Crystal Display (LCD) monitor. CRT monitors are relatively inexpensive but bulky and very heavy. If you have limited space and want less weight, a Flat Panel or LCD monitor is a better choice, although it is more expensive than the CRT monitor. The LCD is what you find on laptops and other portable computers. They also generally have a sharper image.

Viewing size is the size of the area you can view, not the size of the overall monitor. The size is a personal choice depending on how much you'll use your computer, how much you want to spend, and your need for a large viewing area. The viewing area is measured differently for CRT and LCD monitors. CRT monitors are measured diagonally from bottom left to top right. LCD monitors are measured based on the actual viewing area (Table 1).

Table 1. Monitor viewing dimensions for LCD and CRT

LCD	CRT
13.5"	15"
14.5- 15"	17"
18"	18"
	21"

Other considerations for monitors include the resolution which is the number of pixels that can be displayed horizontally and vertically. A 17-inch monitor would typically have 1,280 x 1,024 pixels. A smaller monitor would typically have fewer pixels. Another consideration is how fast the monitor refreshes itself, that is, how many times the screen is redrawn each second. You want at least 75 MHz. The refresh rate is only important to the CRT. CRT monitors have the advantage of being easily viewed from various angles which the LCD can only be easily viewed from straight on (Computer Hope.com at *http://www.computerhope.com/btips/flatpan.htm*).

Printer

With the new Windows Vista on most new PC computers, you want to be sure your computer will talk to your printer. The really inexpensive printers probably won't work with Vista. Eventually, the printer manufacturers will provide drivers for these printers so that they will work with Vista. However, the drawbacks are how long you might have to wait for that driver, and often up-graded drivers have glitches. You need to consider what you'll be printing. Will you need color or will black and white be adequate? How many pages a minute do you want to print? Do you want to be able to print double-sided? The bigger question is what you're willing to spend for ink (if you get an ink jet) or for toner if you get a laser printer. You can return toner cartridges to the manufacturer for a rebate or reduced price on the next purchase. They often include a shipping label and pay for shipping. Do you want others to be able to use your printer from a different computer? If you do, you need to be sure it is network ready.

Other specifications

The rest of the specifications are pretty much personal choices—wired or wireless mouse and keyboard; regular keyboard or ergonomic or alphabetic. Security software is a must if you're connected to the Internet or load pictures or data on your computer from another source. Other software is based on your needs. The programs can be very expensive, so you need to decide exactly what you plan to use the compute for before you buy.

Desktop, Notebook, Laptop, or Tablet

How do you decide which one is best for your needs? The answer, unfortunately, is another question: what are you going to do with it? Are you going to use it only in the house for recordkeeping and other business operations or do you want to be able to take it to the field with you? For in the house use, a desktop would probably suit your needs best. The other three, laptop, notebook, and tablet, are similar in that they are portable, but each has some differences. When you search for these, search by laptop, notebook, and tablet. Notebooks and laptops may

differ only with respect to weight and durability. If you plan to take your computer traveling or to multiple locations on the farm, you may want the laptop. A notebook will probably be heavier and slightly bigger. A tablet is a specialized laptop that is small and compact. You can write on it with a special stylist and the computer will translate your handwriting into word text. The tablet would be really useful to take to the field to record data. The biggest drawback to the portable computers is their small keyboard and screen size. If you have no problem with these drawbacks, a notebook might be the best choice since it is extremely versatile.

One consideration when buying a laptop, notebook, or tablet is whether you need it to operate for long periods on the battery. Battery life information can be confusing, but the choice really only becomes important if you do a lot of traveling. For using the computer out on the farm, it might be more important to consider having a back-up battery than worrying about the power supply, per se. Most batteries will recharge a number of times, but at some point, you must plug in the computer to use it because the battery will no longer recharge.

Summary

In summary, when you go to buy a computer system, decide two things first—what you will use it for and how much you are willing to spend on the computer hardware, software, and peripherals (printer, scanner, digital camera, etc.). Once you've made these decisions, you can start looking and "build" your computer to fit your needs and pocketbook.

2007 Land Rental Guide for the Shenandoah Valley

By Bill Whittle (wwhittle@vt.edu) and Tom Stanley (stanleyt@vt.edu), Extension Agents, Farm Business Management, Northwest District

During late fall 2006, the Extension's Northwest District Farm Business Management staff surveyed Shenandoah Valley farmers in 14 counties on land rental values. A total of 311 landowners and tenants representing 663 separate lease agreements responded to the survey. Respondents were split almost evenly between landlords and tenants with 56.9% landowners and 46.6% tenants. Several respondents indicated that they were both a landlord and a tenant.

This information is not intended to be a specific recommendation for rental rates but should be used by landowners and tenants as a reference point in determining the fair market rental value for land. Farmers, agricultural lenders, and others can use this information in developing budgets and the viability of expansions. This information is also useful for estate management in a farm transition with using Section 2032A of the IRS code which requires knowledge of lease rates.

Terms of leases vary greatly from contract to contract: 37.7% of those answering the survey said that their lease agreements were written documents while 62.3% said that their leases were oral. In many situations, individuals had both oral and written lease agreements. The percentage of written agreements remained virtually unchanged since the last survey and Guide in 2005. However, many respondents commented that they found it useful to have the terms of the lease spelled out so that neither party would be caught unaware.

The tables summarize results of the 2007 survey. It provides the average rental rate and length of lease for use of land. However, averages tell only part of the story. Knowing the range in lease rates and length of lease that have been negotiated is valuable. These data are also available from the tables.

Averages are reported by county and for the Shenandoah Valley. All averages are weighted averages, meaning that larger tracts of land rented at a given rate have more influence on the overall average rate than a small parcel of land. Rental rates are reported for the following categories: Pasture per acre and Pasture per head; Good Cropland and Average Cropland as determined by soil productivity groupings and farmer management in a typical year (Good Cropland = Class 1 & Class 2 and Average Cropland = Class 3, 4, and 5 land -these categories also include hay land); Whole Farm leases; and Dairy Farm leases.

The reliability of the average figures reported increases as the number of responses increase. The tables show the number of responses providing data for a specific category. To maintain the confidentiality of the survey, no data were reported for a county unless at least three lease agreements were reported. However, these data were used to compile the Shenandoah Valley average. In certain counties, insufficient responses were available to report both Average and Good Cropland. In these circumstances the average and good responses were combined if the average and range of both were similar. This procedure allows for more data to be shown without skewing the information.

Within the rental category, the very high rental rates were generally for smaller parcels of land, and the very low rental rates often had other circumstances involved such as the desire by landowner to maintain Land Use Valuation on the parcel or a family relationship between landowner and tenant. There were also what appeared to be unique circumstances for a parcel of land that met very specific needs of the tenant.

Cash lease agreements were the predominant form of lease, but in several cases, landlords and tenants participated in Crop-Share Leases. 11.3 % of the lease agreements reported were based on the Landlord and Tenant sharing in the expenses, risk of production, and harvest of the crop. Hay was the primary cost-share lease crop but a few leases involved grain and silage. The percentage share was quite variable. In most of the reported leases, the Crop-share was between family members with both parties farming or between non-related parties where the landlord receive a portion of the hay for his livestock.

Barter agreements are complex and difficult to compile as an average and range because each barter situation is different. Past surveys have indicated that a notable number of leases use barter. In the 2006 survey, 48 individuals or 15.4 % of the landowners and tenants reported being involved in a barter situation. Though difficult to determine averages because of their complexity, most barter rentals involved hay and pasture on small acreages, i.e. under 30 acres. Generally, the tenant has to keep the land mowed and cleared of brush and often provides feed and sometimes care for a few horses or other livestock. In several instances, year round caretaking responsibilities such as mowing the lawn, snow removal, and lane maintenance are involved while other tenants provided beef to the landowner. In some situations hunting rights

on other land were part of the arrangement. The two primary reasons given for participating in a barter agreement were to keep the land maintained in a productive state and to be eligible for land-use taxation rates.

Over the past several years and surveys, land rental rates in the Shenandoah Valley and any specific county have trended up. This up-trend, though, has not been steady for a specific county as noted by decrease in average rates in some situations. The Shenandoah Valley, as a whole, shows slow increases, but again, specific counties may have had substantial increases in certain categories.

Table 1: Pasture Rates per Acre

County	# of Responses	Average Length of Lease (Months)	Average Rate Per Acre Per Year	Low Rate per Acre	High Rate Per Acre
Augusta	37	15	$17.61	$6.47	$40.00
Bath	6	7	$23.27	$9.00	$50.00
Highland	13	14	$15.05	$5.55	$30.00
Rockbridge	20	21	$12.14	$2.00	$37.50
Rockingham	62	19	$35.69	$5.00	$200.00
Clarke	21	22	$23.95	$10.00	$70.00
Frederick	13	28	$16.57	$6.67	$42.00
Page	13	22	$22.47	$10.00	$35.00
Shenandoah	23	16	$19.43	$10.00	$40.00
Warren	4	12	$15.33	$13.00	$18.00
Alleghany	7	15	$24.55	$19.50	$40.00
Botetourt	9	18	$18.14	$2.86	$40.00
Roanoke	4	12	$12.81	$10.00	$33.00
	Total #	**Average Length of Lease**	**Average Rate Per Acre Per Year**	**Actual Range**	
Shenandoah Valley Average	238	18	$20.96	$2.00	$200.00

Table 2: Pasture rates per Head

Cow-Calf					
	# of Responses	**Average Length of Lease (Months)**	**Ave Cow/Calf Rate per Month**	**Low Rate per Month**	**High Rate per Month**
Shenandoah Valley Average	20	14	$7.50	$2.00	$14.00
	Stocker				
	# of Responses	**Ave Length of Lease (Months)**	**Ave Stocker per Month**	**Low Rate per Month**	**High Rate per Month**
Shenandoah Valley Average	13	10	$6.54	$3.50	$11.00

Table 3: Good Crop Land*

County	**# of Responses**	**Average Length of Lease (Months)**	**Average Rate Per Acre Per Year**	**Low Rate per Acre**	**High Rate Per Acre**
Augusta	13	12	$41.31	$12.00	$80.00
Bath	3	36	$17.45	$9.00	$33.00
Rockbridge	6	20	$29.61	$5.00	$45.00
Rockingham	61	17	$53.93	$33.00	$200.00
Clarke	14	60	$29.82	$15.75	$40.00
Page	6		$36.88	$30.00	$45.00
Shenandoah	21	12	$29.95	20.00	$44.00
Warren	3	24	$15.96	$13.00	$25.00
Alleghany	6	28	$25.86	$15.00	$30.00
Botetourt	7	48	$32.16	$12.00	$50.00
Roanoke	6	12	$10.18	$5.26	$15.00
	Total #	**Average Length of Lease**	**Average Rate Per Acre Per Year**	**Actual Range**	
Shenandoah Valley Average	149	19	$36.72	$5.00	$200.00

* In certain counties cropland was combined into one category, either Good Crop Land or Average Crop Land, because too few responses were received to differentiate between good and average cropland.

Table 4: **Average Crop Land***

County	# of Responses	Average Length Of Lease (Months)	Average Rate Per Acre Per Year	Low Rate per Acre	High Rate Per Acre
Augusta	22		$34.59	$8.00	$80.00
Rockingham	46	22	$46.44	$11.00	$200.00
Clarke	4		$22.24	$15.00	$30.00
Frederick	6	24	$20.94	$16.00	$30.00
Page	7		$34.70	$20.00	$45.00
Shenandoah	16	12	$24.23	$14.00	$30.00
	Total # Responses	**Average Length of Lease**	**Average Rate Per Acre Per Year**	**Actual Range**	
Shenandoah Valley Average	105	20	$33.25	$6.00	$200.00

* In certain counties cropland was combined into one category, either Good Crop Land or Average Crop Land, because too few responses were received to differentiate between good and average cropland

Table 5 **Whole Farm***

County	# of Responses	Average Length of Lease (Months)	Average Rate Per Acre Per Year	Low Rate per Acre	High Rate per Acre
Augusta	25	20	$26.08	$5.20	$54.45
Highland	4	12	$18.43	$8.81	$42.86
Rockbridge	24	21	$24.96	$12.00	$89.00
Rockingham	35	18	$39.62	$12.00	$220.00
Page	11	49	$29.93	$20.00	$60.00
Shenandoah	9	17	$23.32	$13.33	$40.00
Botetourt	3	44	$15.59	$6.32	$27.27
Craig	4	44	$12.00	$7.50	$28.57
	Total # Responses	**Average Length of Lease**	**Average Rate Per Acre Per Year**	**Actual Range**	
Shenandoah Valley Average	123	23	$26.89	$5.20	$220.00

* Whole farm leases often contain a mix of pasture, cropland, and wooded land. Structures such as barns or shelters and facilities such as corals may be included.

Table 6 Valley Dairy Farms*

# of Responses	Average Length of Lease (Months)	Average Acres per Farm	Average Rate Per Acre Per Year	Average Rate Per Farm Per Month	Low per Month	High per Month
9	19	180	$121.22	$1,814.00	$917.00	$3,000.00

* Dairy farm leases include milking facilities and some land. Residences are occasionally included.

Table 7 Inputs In Addition to Cash Rental Rates for Hay & Pasture*

	Percent of Time Supplied by Tenant	Percent of Time Supplied by Land Owner
Fertilizer (Lime was often included under Fertilizer)	53.1%	6.8%
Weed Control (Includes Spraying or Bush Hogging)	49.8%	
Herbicides Only		7.4%
Minor Repairs of Fence, Coral & Building	58.8%	
Fence Building Supplies		28.9%

* Other Tenant supplied inputs that were mentioned for pasture was bush hogging or clipping pasture to keep land looking good. Other landowner supplied inputs included a power supply for livestock waterers and electric fence and a water supply such as a well.

Family Meetings Are an Essential Part of Farm Succession

By Tom Stanley (stanleyt@vt.edu), Extension Agent, Farm Business Management, Northwest District

The vast majority of commercial farms in Virginia are closely held family businesses. With an average age of 57 years, the primary operators of these farms in Virginia are approaching a time when their activity in farming will change. Most Shenandoah Valley farms are quickly approaching a period of transition. Will the farm continue to function as a viable business (either full-time or part-time)? Does some land need to be sold to meet retirement or long-term care needs? What are the goals of the farmland owner?

Answering these questions and successfully communicating the goals that spring from the answers is one of the greatest challenges farm families face today**.** Farmland owners are far more likely to realize their desires for the farm if they successfully communicate their wishes to people who can help accomplish these goals. In most cases, these people will be family members. The first family meeting can be an awkward and difficult event, but the second meeting is easier than the first, the third is easier than the second, and so on. Farm families that have regular meetings to discuss the farm business and the goals of people associated with the farm are consistently more successful.

Farmland owners are far more likely to realize their desires for the farm if they successfully communicate their wishes . . .

Family meetings can be difficult because of the issues farm families need to address. Issues related to aging, health care, and the specter of dependence and frailty are discomforting topics for most of us; yet, they will inevitably impact the farm business. Many farm families are managing multi-million-dollar asset portfolios. A management imperative is that people involved in a business together meet regularly to discuss the direction and conduct of the business. Unavoidable aspects of farm business are the health and financial needs of family members because these are the people who keep the farm going.

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Some guidelines will help make family meetings successful. First, set a specific date and time to meet. Second, have an agenda of items that need to be discussed. Third meet in neutral territory, such as a conference room at a local community center, bank, or accountant's office. Fourth, designate a note–taker to record the essence of the comments and thoughts that are shared. These guidelines may sound rigid and formal for a family, but they help assure the meeting will result in tangible accomplishments.

Virginia has a 400-year history in farming, and many of our farm families have a deep emotional attachment to their land and their sense of place. These emotions quickly come to the fore when families are facing changes in ownership. Setting goals, communicating these goals, and exploring how to accomplish these goals can secure a family's future association with the land. The family meeting is an essential part of the farm succession process.

Financial Analysis of an Agricultural Business - the Enterprise Budget

By Alex White (axwhite@vt.edu), Instructor, Agricultural Finance and Small Business, Department of Agricultural and Applied Economics, Virginia Tech

My previous articles have discussed the basics of the three main financial statements that a lender or management consultant would typically require of a business owner; these statements are the balance sheet, the income statement, and the cash flow statement. While these statements can be powerful tools for an owner (especially the cash flow statement), there is another statement that helps an owner take a critical look at the profitability of each specific aspect of the business. This statement is called the enterprise budget.

An enterprise budget lists the revenues and expenses related to one specific aspect of a business. For example, a greenhouse operation would have an enterprise budget for each type of plant produced (mums, poinsettias, etc.). A dairy operation would have an enterprise budget for the milking herd, one for the replacement heifers, one for the pasture enterprise, and one for each crop that is produced. Basically, an enterprise budget is a mini-income statement for each enterprise in your business. It allows you to determine which aspects of your business are profitable and which aspects are not as profitable. In contrast, an income statement considers the profitability of your entire business (all enterprises combined).

Sections of an Enterprise Budget

There are 4 main sections to an enterprise budget – Revenues, Operating Expenses, Ownership Expenses, and the Summary. A sample enterprise budget is attached at the end of this article. Enterprise budgets are usually constructed on a per-unit basis; that is, a per-acre basis for most field crops, a per-head basis for most livestock enterprises, etc.

The Revenues section lists all of the revenues associated with that enterprise. For example, a sheep budget would list the sale of feeder lambs, culls, and wool as revenues. It is typical to list each source of revenue, the amount sold per unit, and the market price per unit. The bottom of this section shows Total Revenues for the enterprise.

The Operating Expense section, also called the Variable Cost section, lists the cost of all of the operating inputs necessary to produce that enterprise. Operating inputs are those inputs that vary directly with the level of production. Operating inputs are inputs that are typically used up completely during the production cycle. Examples would be seed, feed, fertilizer, hired labor, and repairs. The manager has complete control over how much of these inputs he/she will use. One note on your operating expenses – list the cost per unit at the net market cost, regardless of whether you are buying your inputs or growing them. For example, if you are growing your own hay to feed to your dairy herd, you should list the homegrown hay at the net market value, NOT what it cost you to produce. One operating expense that is commonly overlooked is "interest on operating capital". This reflects the cost of the capital that you have invested in the operating inputs over the production cycle. I am conservative in calculating this expense – I use the subtotal of all of my other operating expenses times the average interest rate on operating loans or lines of credit. For enterprises with an annual production cycle I use the interest cost for the entire year. For enterprises with a shorter production cycle I adjust the interest expense by multiplying by the number of months the funds are tied up in the enterprise divided by 12 months. For example, assume my corn enterprise has funds invested for about 9 months out of the year. If my annual interest on operating capital is $10/acre, I would adjust this by multiplying the $10 by 9/12. Therefore, I would include interest on operating capital of $7.50/acre on my corn enterprise budget.

The bottom of the Operating Expense section includes Total Operating Expenses and Return Above Operating Expenses. Total Operating Expenses is just the sum of all the operating expenses (including interest on operating capital) for the enterprise. Return Above Operating Expenses is Total Revenues minus Total Operating Expenses. In a nutshell, you always want Return Above Operating Expenses to be greater than zero. If this figure is less than zero, you should not produce this enterprise this year – it will cost you more to produce than you will receive in revenues.

The Ownership Expenses section, also called the Fixed Cost section, lists all of the costs associated with capital assets needed to produce the enterprise. Capital assets include your machinery and equipment, breeding livestock, and your real estate and buildings. All of these capital assets are not used up completely in one production cycle. For example, the capital assets of a greenhouse enterprise budget might include the greenhouse itself, the heating system, the

watering system, as well as the land on which the greenhouse is situated. To estimate the ownership costs of these capital assets, I typically use 15-20% of the purchase price of the asset. This will approximate the depreciation, interest forgone, property taxes, and insurance premiums associated with the capital assets. If the asset is used for more than one enterprise (as a tractor or delivery truck, or a greenhouse) you should estimate the percentage of annual use devoted to each enterprise – then, adjust your estimated ownership costs by multiplying the annual cost by the percentage of time devoted to that enterprise. Some people (me included) also include an opportunity cost of the owner labor and management as a fixed cost. To estimate the cost of owner labor, I estimate the number of hours of labor the owner works on that enterprise and multiply by a relevant hourly wage. I also estimate the value of the owner's management ability by multiplying Total Revenues by 5%. As with the Operating Expense section, the bottom of the Ownership Expense Section shows the Total Operating Expenses.

The Summary section of the enterprise budget commonly lists Total Expenses, Return Above Total Expenses, and some form of breakeven analysis. Total Expenses are simply Total Operating Expenses plus Total Ownership Expenses. Return Above Total Costs is Total Revenues minus Total Expenses. This figure must be greater than zero if you want to continue production of this enterprise for the long run (the next 5-10 years). Otherwise, you will not be covering the total costs of production and you will be losing money in the long run.

For most enterprises, I like to include a simple form of breakeven analysis. I typically calculate the Minimum Price Necessary to Cover Operating Expenses and Minimum Price Necessary to Cover Total Expenses. These are very simple to calculate – simply divide the Total Operating Expenses (or Total Costs) by the expected quantity of production. For example, assume I can expect to get 100 bushels/acre from my corn enterprise and the Total Operating Expenses are $250/acre. To calculate my short-run breakeven price (covering Total Operating Expenses), I divide my operating expenses of $250/acre by my yield of 100 bushels/acre. In this example, I need to get at least $2.50/bu for my corn so that I can cover my operating expenses. This is a powerful tool for your marketing program.

Uses of an Enterprise Budget

Enterprise budgets are great tools for critically analyzing each specific aspect of your operation. The main uses of an enterprise budget are:

- clearly identifying all of the inputs needed to produce that enterprise
- easily identifying your top 5 expenses for cost control management
- which helps to determine potential changes in the operation
- estimating the minimum operating loan that you should request from your lender
- determining how much revenue you can generate from the enterprise
- breakeven analysis for your price and yield

For example, examine the sample enterprise budget at the end of this article. This budget shows the revenues and costs associated with 1 acre of Halloween Pumpkins. You'll notice the total

revenues are based off an expected yield of 2,000 pumpkins per acre and an average price of $2.00 per pumpkin. We are expecting total revenues of $4,000 per acre.

The Variable Costs section shows all of the operating inputs needed to produce pumpkins, as well as the amounts and costs of each. Total Variable Costs (or Operating Expenses) are $2,083 per acre. To help you control your production costs, identify the top 5 expenses. In this case, you should focus your cost control efforts on Marketing, Supplies, Irrigation, Fungicides, and Fertilizer.

The Fixed Costs (or Ownership Expenses) list the expenses for Owner Labor, Management, Machinery, Buildings, and Land. For this enterprise, you will have $2,365 of costs whether you produce 2,000 pumpkins per acre or 20 pumpkins per acre. Fixed costs are critical factors for long-run profitability!

The Summary section shows the Return Above Variable Costs to be $1,917/acre. This means that you are generating just over $1,900 more in revenue than in your operating expenses. This means that it is a wise idea to produce pumpkins this year. However, the Return Above Total Costs shows a loss of $448/acre. This indicates that you should not produce pumpkins for the next 5-10 years unless you make significant changes to your cost structure or pricing policy. In the long run, you need to be able to cover your fixed costs as well as your operating costs. If you can't, then you won't be able to replace your equipment as it depreciates, or maintain the productive condition of your facilities.

Finally, the Summary section shows you some basic breakeven analysis. The Breakeven Yield shows that if your costs remain constant, you need to get a yield of at least 1,042 pumpkins per acre to cover your variable costs. Further, if you do get a yield of 2,000 pumpkins per acre, you must sell your pumpkins for at least $1.04/pumpkin to cover your variable costs. Is this great stuff or what?!

Parting Shots

Enterprise budgets are powerful tools in managing each particular aspect of your business. They help you identify all of the inputs (amounts and costs) needed to produce that crop, as well as the revenues you can expect to receive. It allows you to identify potential methods of controlling your costs. It helps you determine how much of an operating loan you might need for an individual enterprise. And it helps you determine the profitability and the breakevens for your enterprise. It's a powerful tool for managers!

If you would like to receive an Excel spreadsheet with a basic enterprise budget, please contact Alex White at axwhite@vt.edu, or call Jill at 540-231-7727 and leave your contact information. You can also go to my new (and still under construction) website at http://faculty.agecon.vt.edu/alexwhite/ to download an enterprise budget spreadsheet. Also, Virginia Cooperative Extension provides sample enterprise budgets for the main crop and livestock enterprises for the state of Virginia. These can be found by going to http://www.ext.vt.edu/resources/ and clicking on the "Farm Business Management & Marketing" link.

Halloween Pumpkins

Revenues		Units	Amount	Price/Unit		Total
Pumpkins		Pumpkins	2,000	$2.00	/pmpkn	$4,000
Other						
Total Revenues						$4,000
Variable Costs						
Rye Cover Crop		Bu.	2	$9.00	/Bu.	$18.00
Pumpkin Seed		Lbs.	2	$40.00	/Lb.	$80.00
Fertilizer:	N	Lbs.	100	$0.34	/Lb.	$34.00
	P	Lbs.	100	$0.28	/Lb.	$28.00
	K	Lbs.	150	$0.25	/Lb.	$37.50
Lime		Tons	0.5	$30.00	/Ton	$15.00
Herbicides:	Command 4EC	Oz.	7	$1.50	/Fl. Oz.	$10.50
Insecticides:	Thiodan 50WP	Lbs.	1.5	$8.50	/Lb.	$12.75
Fungicides:	Ridomil/Bravo 81WP	Lbs.	8	$17.25	/Lb.	$138.00
	Qudris	Oz.	14	$350.00	/Gal.	$38.28
Crop Supplies - Bins		Each	60	$9.50	/Bin	$570.00
Irrigation		Acre	$1	$300.00		$300.00
Marketing:	Hauling & Grading	Loads	6	$100.00	/Load	$600.00
Fuel, Oil, Repairs		$/acre	$1.00	$120.00	/Acre	$120.00
Operating Interest		$/acre	$1,084	7.50%		$81.30
Total Variable Costs						$2,083.33
Out-of-Pocket Cost Per Pumpkin						$1.04
Fixed Costs						
Labor		Hours	100	$17.00	/Hour	$1,700.00
Management Charge		% of Gross	$4,000	5%		$200.00
Machinery Fixed Costs		$/acre	$385.00	$1.00	/Acre	$385.00
Building Fixed Costs		$/acre	$0.00	0.00%	/Acre	$0.00
Land Charge		$/acre	$1,000.00	8.00%	/Acre	$80.00
Total Fixed Costs						$2,365.00
Total Cost						
Total Cost						$4,448.33
Total Cost Per Pumpkin						$2.22
Return Above Variable Costs						$1,916.67
Return Above Total Costs						($448.33)

To Cover:	Breakeven Yield		Breakeven Price	
Variable Costs	1,042	pmpkn/A	$1.04	/pumpkin
Total Costs	2,224	pmpkn/A	$2.22	/pumpkin

Amounts, Prices & Costs are for educational purposes only.

Calendar of Events

June

18-21 State 4-H Congress, Virginia Tech Campus, Blacksburg VA. Contact Katie Lafon by email at kapatter@vt.edu or by phone at (540) 231-3360.

25-28 State FFA Convention, Virginia Tech Campus, Blacksburg VA. Contact Andrew Seibel by email at gseibel@vt.edu or by phone at (540) 231-3823.