TECHNOLOGY—NOT JUST COMPUTERS

Biotechnology involves the application of science and technology to living organisms. In the 1800s this involved applications such as using yeasts and other food production. Since the mid-1900s, developments in genetic engineering have led to increased farm production and new forms of crops.

This has resulted in producing more food per acre, helping to ease hunger and poverty. Scientists have worked with plants to breed and engineer strains that stay fresher after they are picked, are more uniform in size for canning, or have extra sweetness or some other desirable characteristic. For instance, sweet corn's sugar will rapidly turn to starch after it is picked. Genetic engineering has resulted in a corn whose sugars stay as sugars for over a week.

But many are scared of this manipulation. They feel that desirable traits may be getting lost, traits that may be needed for the plant's adaptation to a change in climate or a drought. They fear that trace vitamins or minerals may be lost. They feel as if scientists are breeding to benefit industry at the expense of taste and variety. For instance, tomatoes have been bred with tougher skins so that they will survive shipping.

Another big fear is the trend toward monocultures. By the 1800s Ireland had become dependant on the potato crop for survival, the same variety of potato across the land. When a potato blight arose, it was able to almost completely wipe out the crop. Mass starvation and the depopulation of Ireland was the result.

Many feel that our own crops are very vulnerable. Our habits of planting hundreds of acres of the same variety of plant allow a disease to travel swiftly and without hindrance. Our genetic bases are shrinking. A lot of our hybrid plants will not grow seeds that breed true for the next generation.

Because of this, many gardeners have banded together to try to preserve types of older plants. They call these "heirloom" seeds or "heritage" plants. There are many places that can be found on the web where a gardener can buy or exchange the seeds of older varieties of fruits and vegetables.

MILESTONES IN BIOTECHNOLOGY & FOOD

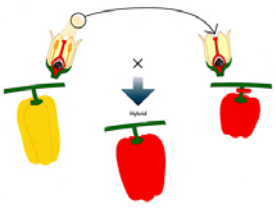
1809: Food Storage
Napoleon Bonaparte, Emperor of France, knew that in order to conquer the world, his soldiers would need food. So he offered a large prize to anyone who could find a way to preserve food healthily.

By 1809, Nicholas Appert had invented "food canning". Food was boiled in open kettles, placed in glass jars, which were sealed by corks wired in place. Then the jars were heated again in boiling water.

In 1810 an English inventor, Peter Durand, found a way to preserve food in tin-plated cans and patented it. By 1821, William Underwood introduced commercial canning in the United States in Boston.

1860: Pasteurization.
Louis Pasteur revolutionized the food industry when he developed a method of heating food to kill the microbes that spoil or ferment milk.

1879: Cross-Fertilization
William James Beal, a professor in Michigan, performed the first controlled cross-fertilization, combining two varieties of corn to make a unique third. Crops that he grew increased their yields by more than 50%.



1946-1970: The Green Revolution.
Agronomists S. Cecil Salmon, Orville Vogel, and Norman Borlaug began trying to find ways to alleviate post-WWII hunger. By cross-breeding varieties of wheat, they eventually came up with a dwarf strain. Introduced in India in 1965, by 1970 it had more than doubled the crop yield.

1986: Genetically engineered crops

The first genetically engineered crop, a tobacco plant modified to resist a certain bacteria, was planted.

1994: The Flavr Savr tomato
For the first time, this engineered fruit is sold in American supermarkets. It has been manipulated to ripen longer on the vine and still be firm enough for shipping. Many feel this is the beginning of the end for tasty food.

1996: Dolly the Sheep is cloned.

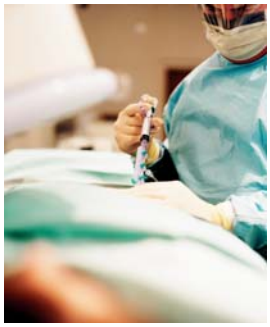
MILESTONES IN BIOTECHNOLOGY & HEALTH

1860S-1960S: Bacteriology

French scientist Louis Pasteur is responsible for the germ theory of disease.

1909-1910: Chemotherapy

German scientist Paul Ehrlich introduced the term “chemotherapy” to refer to the use of chemicals to treat disease. His idea was that synthetic drugs could be found that would kill the organism but not the person.



1912: Vitamins

Although it had been noticed that sailors eating citrus fruits prevented sailors from developing scurvy, and that beriberi could be prevented by eating rice in its natural state, it took many years before the theory took hold that the *absence* of certain substances could cause disease.

1982: Human Insulin

The first synthetic human insulin was put on the market. It is produced by gene-spliced and manipulated e coli bacteria.

Insulin had previously come from beef and pork pancreases, and many had allergic reactions to it Now there is a non-ending supply of human insulin free of contamination and allergens.

The Care and Raising of Your Laptop

So you finally decided to keep the old car and get a laptop instead. Chances are, you don't know much more about maintaining a laptop than you do about your car's transmission. So here's a little starter:

1. Laptops are not pull-toys. Do not drag them around by their power cords. Treat the power cord gently and protect it. Remember you are only ever a few hours from a totally dead, useless computer if you don't have it.

2. Laptops are like puppies. Please support them by their tummies. Do not pull or move them by pulling on their ears or screens.

3. You CANNOT trust any kids with them. SERIOUSLY!! I'm warning you for your own good.

4. Laptops are like kittens. Any drop of liquid and they will not only protest, they will most likely drop dead.

5. Laptops are not organic, but they might as well be. They hate temperature extremes as much as you do.

6. Laptops, like toddlers, should not be left in a car to overheat. They should be firmly buckled into their car seats, foam carriers, and cases.

7. Laptops are NOT fine china. Please do not put food on them, in them, or near them. Those crumbs get in their underwear and cause chafing and irritation. And then their little tiny toe-keys will not work.

8. Laptops know you think that licking your fingers makes them clean, but they prefer clean hands, and gentle cleaning every once in a while. Most can tolerate a very, very slightly damp cloth with very, very mild soap every once in a while. And you can flip off the keys for gentle cleaning beneath.

9. The laptop version of suffocation is to have you bury it deep in your clothing, pillows, and other soft stuff so that air can't circulate around it and it gets super hot and overheats and dies.

10. Your laptop does not have the padded bottom that you do. Just because your laptop bag has some thin layer of foam, it does not mean you can drop it from six feet, slam it on your desk, or let the kid next door walk on it. Things will break, guaranteed.

Care of Laptops in Cold Weather

Regular laptops have been designed to work within a safe temperature range - normally 50 to 95 degrees F (10 - 35 degrees C). A laptop should be in this temperature range for usage and storage. Protecting your laptop from cold weather is important.

1. Ruggedized Laptops

Purchase or lease a ruggedized laptop if you will be outside in cold temperatures for extended periods of time. Ruggedized laptops have been designed to work under extreme weather conditions.

2. Careful Storage

Never leave a laptop, even in a well-padded and insulated laptop case, in the trunk of a vehicle in cold weather. The laptop could freeze and you lose all data contained in it.

3. Let It Warm Up

Once you bring a laptop in from the cold -- allow it to warm up to room temperature before booting. The same is true when you go outdoors -- allow the laptop to acclimatize to the outside temperature before booting up.

4. Incorrect Warming Methods

Do not use devices such as mug warmers or pocket warmers or heating pads to heat or keep a laptop warm. They are not designed for this purpose and can create problems as they will not heat or keep a laptop warm in the right way. They could heat the wrong parts of a laptop or cause it to generate too much heat and melt internal components.

5. Laptop Warmers

There are laptop warmers designed specifically for the purpose of keeping a laptop warm, and these are what you should use.

6. Excessive Heat Build-Up

Do not use your laptop while it is still inside a laptop bag. If you must do it for protection, try to raise it up somehow within the bag so that air can circulate.

7. Stay Out of the Cold

Whenever possible, stay out of direct exposure to cold weather conditions by staying in a vehicle, inside a building or other type of shelter. Protecting your laptop from excessive dampness or wetness from snow will keep your keyboard from freezing and other problems from developing.

8. Change Power Settings

Changing the power settings from Power Save mode will help keep the laptop warm as it continues to run. Instead of having the hard drive shut down, keep it spinning. The longer the laptop can be kept left running, the warmer it will stay as it generates its own heat.

A SONG FOR THOSE WHO WANT TO SING ABOUT TECHNOLOGY

Original song	All through the Night
Original artist	trad. Welsh (Ar Hyd y Nos)
Filk author	Ariel Weinberg
Intro	

All Through the Net

SSH (pronounced Shush), my login, stay encrypted
All through the net
Now your packets won't be sifted
All through the net
While I go on with my hacking
Security will not be lacking
And will foil malicious cracking
All through the net.

MORE COMPUTER SONGS AND POEMS CAN BE FOUND AT:
http://www.poppyfields.net/filks/fullindex.html

Preventing Your Laptop From Crippling You

1. **Un-ergonomic Laptops -** The design of laptops violates a basic ergonomic requirement for a computer, namely that the keyboard and screen should be separated. This means that you need to pay special attention to how you use your laptop because it can cause you problems.
2. **Laptop User Type** - Are you an **occasional user** who works on your laptop for short periods of time or are you a **full-time user** with the laptop as your main computer? Occasional users will have less risk of problems than full-time users. Full-time users have more problems.
3. **Laptop Posture** - Using a laptop is a tradeoff between poor neck/head posture and poor hand/wrist posture.
    - **Occasional Users** -You are better off sacrificing neck posture rather than wrist posture because the neck/head position is determined by the actions of large muscles. For occasional use:
        - find a chair that is comfortable and that you can sit back in
        - position your laptop in your lap for the most neutral wrist posture that you can achieve
        - angle the laptop screen so that you can see it with the least amount of neck deviation
    - **Full-time Users** - if you use your laptop as your main computer, you should:
        - position it on your desk/work surface in front of you so that you can see the screen without bending your neck. This may require that you elevate the laptop off the desk surface using a stable support surface such as a computer monitor pedestal.
        - use a separate keyboard and mouse. You should be able to connect a keyboard and mouse directly to the back of the laptop or to a docking station
        - use the keyboard on a negative-tilt keyboard tray to ensure a wrist neutral posture
        - use the mouse on an adjustable position mouse platform
        - follow the postural guidelines for working at a computer workstation

4. **Laptop dimensions** - The smaller the laptop, the smaller the keyboard, so make sure that you can comfortably type on a keyboard that may be only 75% the size of a regular keyboard. Size of screen is not as important as being able to see the screen print clearly.

5. **Laptop weight** - if you will be frequently transporting your laptop, think about the weight of the system—you will be carrying not only the laptop but all the required accessories such as a power cord, etc. Many lightweight portables can become as heavy as regular laptops when you add the weight of all of the components together. If your laptop + components weighs 10 lbs or more, then you should certainly consider using a pull-along bag.