



EVOLVING INFORMATION TECHNOLOGIES AND THEIR IMPORTANCE TO FORAGES

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ABSTRACT

Amazing changes have occurred over the past 25 years with respect to information technologies. From limited use of mainframe computers to the nearly ubiquitous presence of computers in all aspects of professional work, information technologies now permit worldwide collaboration on cooperative projects. The WWW offers tremendous opportunities to improve the efficiency and quality of the work we do. Our challenge is to develop the interpersonal relationships needed for collaborative work. This paper, combined with the on-line symposium demonstration, describes past, present, and potential future use of information technologies in forage extension, research, and teaching.

Key Words: Computers, Email, Internet, WWW, Global Information Systems

INTRODUCTION

Imagine a world in which you could obtain information about alfalfa varieties, establishment, fertilization, nitrogen-fixation, harvest management, quality and testing, pest control, economics, and marketing 24 hours a day, seven days a week. A world where information about alfalfa organizations and vendors was available to you at the click of a button. A world in which you could check the status of your seed certification application at any time or converse with your hay broker or buyer to discuss price or quality.

That would be an amazing world, wouldn't it? Well, it's here! And today we're going to explore a bit of that world of information technologies. We'll look briefly at where we've been, where we are today, and where we need to be in the next few years.

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WHERE WE'VE BEEN

Twenty five years ago, in 1971 I was a student at the University of Delaware trying desperately to learn FORTRAN for a class I was taking. No doubt some of you learned FORTRAN for mainframe computers.

Twenty years ago, in 1976 I was using FORTRAN to develop a plotting program. I remember the joy of simply getting the Calcomp plotter to create an X-axis and get the tick marks and labels on the correct side of the axis and then — the amazing feat of creating dashed and dotted lines with symbols using trigonometry I thought was long forgotten!

Fifteen years ago, in 1981 we were about to transition from mainframe word processing to a brand new concept; IBM DisplayWriters for self contained, easy-to-use word processing.

Ten years ago in 1986 we were immersed in developing software for PCs had been utilized for four years in our department. Software was designed to make ration balancing and alfalfa variety selection easier.

And, five years ago in 1991, Almanac mailing lists and Gopher-based information systems were catching on - at least with some.

And now - in 1996 - computers are everywhere. E-mail, mailing lists, and discussion groups are giving way to Web sites and Home Pages are proliferating at an amazing rate.

It's interesting, isn't it? To look back and see where we've come from, and what progress has been made in electronic technologies. Where would we be without word processors, spreadsheets, E-mail, faxes, cellular phones, Internet connections, and the WWW?

Looking back is easy, though. What's more difficult is answering questions about how we could, should, and will be using technology now and in the future. That - that takes vision. Visioning - not to be confused with hallucinating - is much more difficult.

Let's start with a bit of here and now, today - and then think a little about where we need to be a few years out - what would be nice, and what might be on the horizon with respect to electronic technology applications to forages.

WHERE WE ARE TODAY

Computers touch many aspects of our lives today. As forage research and extension faculty we use computer software to design our experiments, analyze our data, prepare our reports, and develop presentation slides. Mailing lists are on database programs, and budgets are developed and managed on spreadsheets. We communicate with colleagues worldwide via E-mail lists that contain hundreds of people or individually with specific addresses. Application software is available for specialized needs including gene mapping, breeding histories, and cultivar characteristics, fertilizer recommendations, pest management, ration balancing, and enterprise accounting. Research measurements can be automated with microprocessor equipped devices

and global positioning systems can provide precise identification of location for application of fertilizers.

WHAT'S NEEDED

With all of those wonderful tools, what else could be needed? What else do you want? What contributions could be made by electronic technologies to improve the work that we do and the services we provide?

What's missing, I believe, is a mindset for collaborative, cooperative work. We find ourselves in a competitive, individual-focused work place. We compete for nearly everything; jobs, project funds, publications, grants, students, salary increases, awards, committee assignments. Our universities likewise compete professionally and athletically. In fact, how often do we seem like we miss the point entirely, in having our educational institutions focusing more on competing in football and basketball rather than in academic excellence? (But I digress.) The point is we can do better in working together toward common goals. A collaborative, cooperative, workload sharing mindset and *motis operandi* is needed. And electronic technologies are in place to make that happen. All we need is the will and determination to use them in that way.

A case in point: I (in Oregon) recently received a request from a hay producer in Sterling, Alaska regarding barn drying of hay. Now, I had several options. To be honest, one of my first thoughts was - call your local county agent or your state specialist. But, I know the local agent personally and genuinely wanted to provide some help. Since I didn't know the answer straight off, I had the option of looking for it in books, articles, etc. or asking someone else for help. I chose to ask for help via e-mail from two folks with that expertise. Within minutes I had a reply back from Michigan - and help was on its way to Alaska.

That type of scenario is played out daily on the various computer mailing groups - dairy-L, graze-L, forage-mg, etc. Someone in one part of the world posts a message and a reply is offered in minutes, sometimes from another country! I believe that's good. What's not good is that it disturbs all those connected folks without experience or expertise in that particular subject.

What would be better is a collectively developed and professionally reviewed and revised electronic information system available 24-hours-a-day without disturbance to anyone. Nice thought! Believe it or not, it exists - in outline form, with bits and pieces filled in. It's called the Forage Information System WWW.

I'd like to take a few minutes at this point to demonstrate the system and then finish with a bit of "Blue Sky" visioning.

****ON-LINE DEMONSTRATION****

I hope that you can get a bit of the vision for what can be by this short demo of FIS WWW. For those of you that would like, I have some one page sheets describing this WWW forage resource. The Universal Resource Location (URL) address is: <http://www.forages.css.orst.edu>.

THE FUTURE

So, where to from here? Short term, we need willing cooperators. Pioneers. Folks willing to leap tall buildings (like promotion and tenure concerns) with an “it will work out” attitude. Folks willing to leave to policy wonks the issue of whose institution will provide the header on WWW publications and who push past concerns of cost recovery issues. Any one of these concerns can stop cooperative effort. It has done so for years. We need pioneers to hack their way through these policy jungles and “just do it.”

Public radio and television face a similar challenge of developing something of value to many with only a few contributors. They resort to telethons. I’ve chosen a different concept for us to think about today - “pledge cards.” If you’d be willing to contribute your time, effort, and expertise, to the effort, please fill out one of these and we’ll follow up with you later to accept your offer. You can also fill out one electronically on the FIS WWW site, by clicking on the “Yes, I’ll help!” link.

I believe collaboration with world wide colleagues to jointly develop a global forage resource is in our future. I believe that it will happen over the next few years. It’s not a small challenge. There are millions of volumes of information about forages. It’s a big job. An enormous undertaking. But if you’ll contribute your time, effort and expertise, it will happen.

Vision without action is merely a dream.
Action without vision just passes the time.
Vision with action can change the world.

-Joel Arthur Baker

I foresee in the not too distant future high speed networks that make transfer of text, images, video and audio instantaneous. Transmission speed won’t be a problem. I foresee a future with less time wasted looking for information - powerful search engines will find what you’re looking for - and direct you to do it instantaneously. I foresee automated functions which allow us, as researchers and educators to focus on the educational parts of our jobs, rather than the routine aspects that can be handled efficiently and effectively by support staff and paraprofessionals.

I believe the future will challenge us far more in interpersonal relationships and less in technology. We humans have done well dealing with “things.” It’s time to turn our attention to dealing with people - building bridges, working together - to do better, together - with the help of technology. Let’s build that future together!