Valuable Information Resource for WA Wine Industry

VITS database assists prediction of wine production trends in Western Australia

The area under vine in Western Australia has extended significantly in the southwest areas over the past few years. Margaret River, Mt. Barker and, more recently, areas such as Pemberton have seen a dramatic increase in grape planting.

John Elliott, Extension Viticulturist at the Western Australian Department of Agriculture, is responsible for liaison with WA's wine grape growers and wine makers and, with some 170 producers statewide, he needed a better system for keeping records.

WARCC was approached to build a database to store details of the state's vineyards. The VITS database (Viticultural Information Tracking System) is really an industry survey providing the Department of Agriculture with various details about WA's vineyards.

"I asked for a user-friendly system and insisted that anyone who works with

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me should be able to use it without any difficulty," John said.

VITS has several purposes. It can be used to examine trends in production and plantings. It also serves as an information source for people seeking details of the WA wine grapegrowing industry and as a basis for mailing information and newsletters of interest to the various producers throughout the state.

John pointed out that WA has some of the best areas in the world for growing grapes for high quality table wines.

"Some of the cooler southwestern areas were chosen especially for the production of top quality table wines. Because of economy of scale we simply
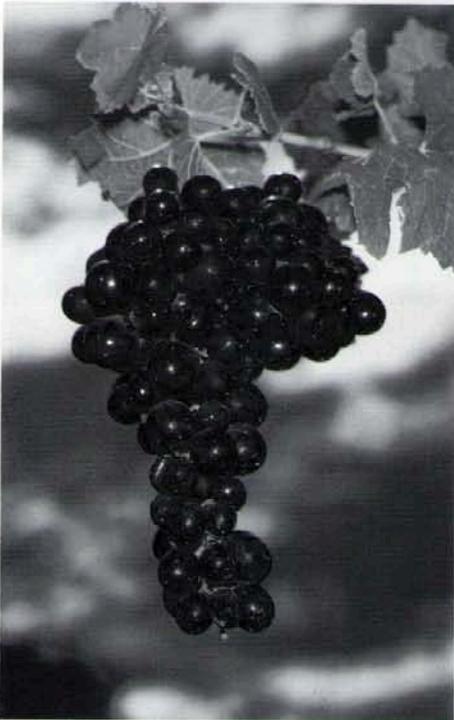
Quality wine production starts in the vineyard

cannot compete in the cask market, which accounts for 60 percent of Australian wine consumption," John said.

"WA produces less than 2 percent of Australian wine and it is all bottled product. This means that our producers must concentrate on the premium end of the market which, of course, includes the export market. We encourage producers to look further afield, to identify one or two export markets and then go for it. There is lots of room for expansion as WA currently exports only 10 percent of its wine overseas."

John pointed out that export markets have become all the more important as the last two harvests in Australia yielded very good crops resulting in a lot of wine for sale and a very competitive market for premium wines. Well-established producers with stabilised markets will not suffer but for newcomers difficult times lie ahead.

"This is where the database plays an important role as it enables the Department to predict with confidence what will happen during the next five years or so. We are therefore in a position to assist producers in their decisions relating to planting trends," he said.

WARCC consultants Kristina Lam and Michael Wheatley chose Clipper to build the system as it offers compatibility with the widely used dBase III+ database system and, they believe, offers an improved user interface. Clipper programs are also fully compiled, giving them an advantage over dBase in performance.

Information in the database includes the total area of wine-grape varieties, irrigation and predicted tonnages. Using these data the Department of Agriculture then produces statistical

WA wine producers must concentrate on the premium end of the market

reports showing the total area of wine-grape plantings, broken down by region, variety and year of planting. These reports serve as an important aid in forecasting future plantings and production.

The database will be ongoing, serving as a valuable information resource to the state's wine industry.

It is easy to use, being menu-driven throughout. This allows John Elliott to devote more time to the important matters, such as ensuring that wines produced in Western Australia are of premium quality.

Front cover photograph of wine in wood storage at Cape Mentelle vineyard, WA, courtesy of the Western Australian Department of Agriculture

Director's Desk

Electronic mail is now in widespread use within the international scientific and research community. This technology has peculiarities which set it apart from existing forms of communication, including the post, the telephone and facsimile transmission.

It shares with the fax the brilliant advantages over phone that, whilst still being almost as fast, it gives hard copy and is non-intrusive—which also means that you don't have to wait till the recipient is present before trying to make contact. Faxes have, of course, almost completely displaced the telex to the point where Telecom is about to terminate its telex service.

But electronic mail has the advantage over the fax that the material transmitted is retained in machine-readable form.

Some interesting and important consequences are now just starting to emerge from this technology.
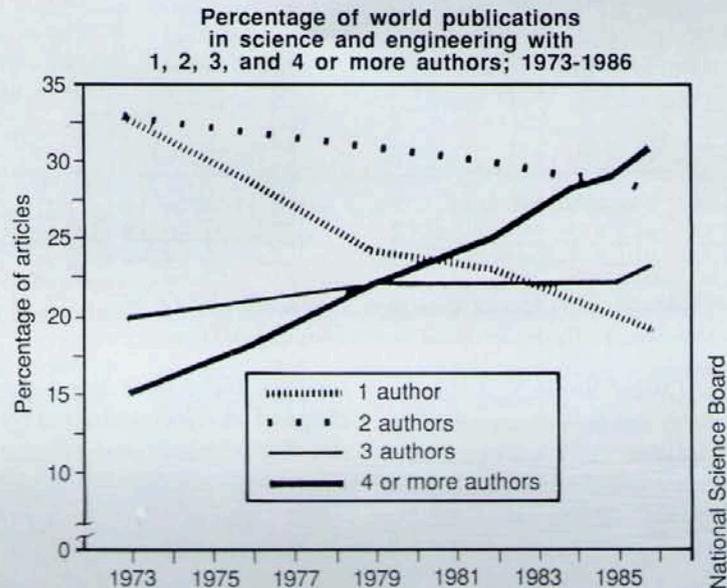
For example, the University of WA has a research programme into Cold Fusion. This research team is able to keep almost instantly in touch with similar teams in other laboratories around the world by means of electronic mail. Tentative results are posted electronically, often using "bulletin boards" which make those findings immediately available to anyone with a network connection who cares to read them.

Researchers can compare opinions or half-formed ideas with a wide range of colleagues before committing themselves formally to print. In addition, electronic mail enables researchers to cut down the enormous time lags between preparing formal papers and having them appear in print (sometimes up to a year's delay must be expected).

Another effect of the widening use of electronic mail is the rise of collaborative writing in the scientific and engineering community. In a recent issue of "New Scientist" (citing the American publication "Science & Engineering Indicators - 1989"), it was reported that the percentage of published papers by four or more authors has more than doubled over the period 1973 to 1986, whilst that of single-author pa-

Percentage of world publications in science and engineering with 1, 2, 3, and 4 or more authors; 1973-1986

.... 1 author
. . . . 2 authors
——— 3 authors
▬▬▬ 4 or more authors

National Science Board

pers has dropped by 45% over the same period (see chart below).

It is clear that scientists and engineers no longer need feel isolated by choosing to live in a "remote" city such as Perth, or cut off from the mainstream of developments worldwide. The era of the world as an "electronic village" may be coming closer.

And it is also clear that many of these benefits (and others yet to be discovered?) are not exclusive to the scientific community. They can be enjoyed also by people in business, industry and government. All you need is a network connection! And these are now readily

available with minimal outlay. For example, several Perth organisations have established connections to the international scientific electronic mail and bulletin boards through WARCC.

WARCC acts as the WA hub for *ACSNET*, which imports from the USA an extraordinarily wide range of bulletin boards. Clients connected to this network automatically benefited from the establishment in May of the national academic network, *AARNet*, for which WARCC also acts as the WA hub.

Electronic communication has an important part to play in the future of a community so isolated as Perth, be it "email" or fax or some other technology. And we will continue to discover new ways to exploit these technologies in novel and exciting ways.

Alex Reid
Director

Schoolchildren In Melanoma Study

By learning what causes moles to develop, we understand more about how to prevent melanoma

In 1985 Dr Dallas English of the Research Unit in Epidemiology and Preventive Medicine (UWA Department of Medicine) commenced a skin mole survey of 2600 Perth schoolchildren in Years 1 to 10.

He then undertook a follow-up survey in 1988 involving approximately 700 children in Year 7 who had participated in the previous study.

"The survey was conducted because the number of moles a person has is a strong predictor of the risk of developing melanoma," Dr English said.

"By learning what causes moles to develop, we understand more about how to prevent melanoma and, as most moles develop during childhood, it was important to study children."

Data entry for the mole survey (*see illustration above*) was the task of WARCC's data preparation staff whose services have been used for a wide range of studies conducted by University departments and other organisations.

The aim of the initial study was to determine how common moles were among children and to find out how their numbers related to age, sex and other characteristics of children.

Dr English commented that the relationship between the number of moles and amount and type of sun exposure was of particular interest and that the survey results show that the number of moles increases gradually during childhood.

Other findings of the survey indicate that boys have more moles than girls, fair-haired children have more moles than dark-haired children, children with blue eyes have more moles than children with brown eyes, children who spend long periods of time on the beach have increased numbers of moles, and children whose skin tends to burn when exposed to the sun have the greatest number of moles.

Dr English concludes from the survey results that early childhood exposure to the sun is an important contributing factor in the production of moles and stated that "This underlines the need for prevention measures, such as avoidance of sun exposure, to be aimed at the very young."

Inaugural Roadwatch Conference A Success

Roadwatch (Road Accident Prevention Research Unit) has accomplished a great deal during its first year of operation.

This was confirmed at the recent inaugural Roadwatch conference at which a number of issues relating to road safety were debated by delegates from Western Australia, interstate and overseas.

The conference received considerable media coverage and was judged a great success by participants.

Roadwatch was established within UWA's Department of Medicine by the Health Department of WA in recognition of the serious consequences and rapidly rising costs of road trauma in the state.

The main aims of the Unit are to collate, analyse and evaluate relevant data, make recommendations for the prevention of accidents and improvement of emergency services as well as to study the cost-effectiveness of road accident counter measures

During its first year Roadwatch was also required to set up a Road Injury Database, unique in Australia, which will enable a wide range of studies relating to road accidents in WA to be undertaken. In particular, data will be used to determine hospital costs associated with various types and categories of accidents.

WARCC programmer Diana Rosman has been instrumental in designing, implementing and managing the database which already benefits many users.

Information in the Roadwatch database was used for three of the papers presented at the conference: *Hospital Inpatient Accident Costs for Road Traffic Accident Casualties in WA 1988*; *Human Pedestrian Safety*; and *Promising Countermeasures for the Prevention of Traffic Accidents in WA*.

"All these analyses were performed on the client's own facilities, using ORACLE on the SUN and SAS on PCs," Diana said.

Diana envisages intensive use of the database during the next twelve months at least. She looks forward to continuing her work at Roadwatch, providing a service to those involved in road accident research.

Costs associated with road trauma in Western Australia have increased dramatically

New Deal for Operators and Clients

Shift operators took the initiative in introducing a better roster system—WARCC computer operators (from left) José Isler, Margaret Bates and Günter Ahrendt
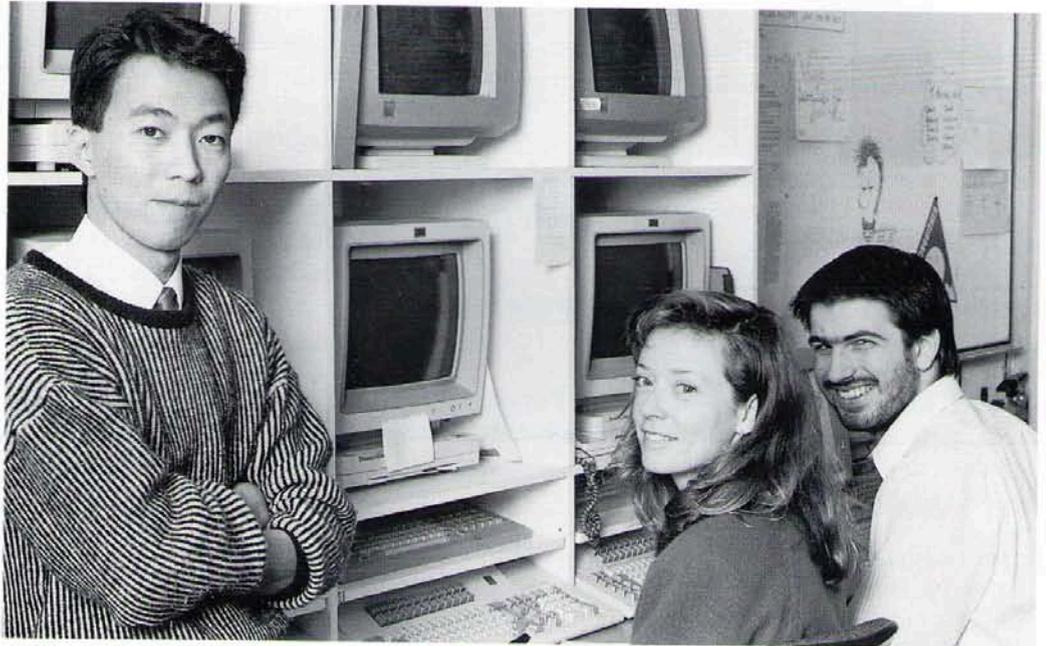
WARCC's computing hall operates around the clock every day of the year. This means that computer shift operators are required to work rotating rosters covering a 24-hour period seven days a week.

In late April the operators themselves put forward a proposal to introduce a new six-shift roster. They had the client requirements at hand when planning the roster which had to be suitable for client needs and staff.

During the previous six months a 12-hour shift roster had been on trial in the computing hall. The general feeling among operators was that these hours were too long, especially the nightshift period from 7.30 pm to 7.30 am. They also found that the work load would reach a peak during the final hours of shifts when they tended to be less alert.

At the end of the six-month trial period following negotiations with University personnel managers and the union (Civil Service Association), the shift operators voted on April 23rd to introduce the six-shift roster which they had drawn up themselves and was acceptable to WARCC management.

The Centre encourages staff to continually review their workplace with a view to improving the working environment, thereby providing a better service to clients.

Since its implementation the roster has been working successfully and an important benefit for staff has been extensive on-the-job training.

Dennis Fowles, Manager of the Centre's Facilities Management Division, has noted an improvement in system availability.

He pointed out that the combination of better working hours and more training had led to improved figures and commented that "Although it is too early at this stage to measure the benefits clients and staff are gaining from the change in roster, the signs are very encouraging."

The Health Department of Western Australia is a major user of WARCC's facilities management services. Tony Harris, Manager of Production Services and Support at the Department, is pleased with the new shift system.

"The roster addresses the two main difficulties experienced previously—anti-social hours and inadequate training time. I am pleased the system is working so well and the benefits are already apparent," Tony said.

Tedium Taken Out Of Marking Exams
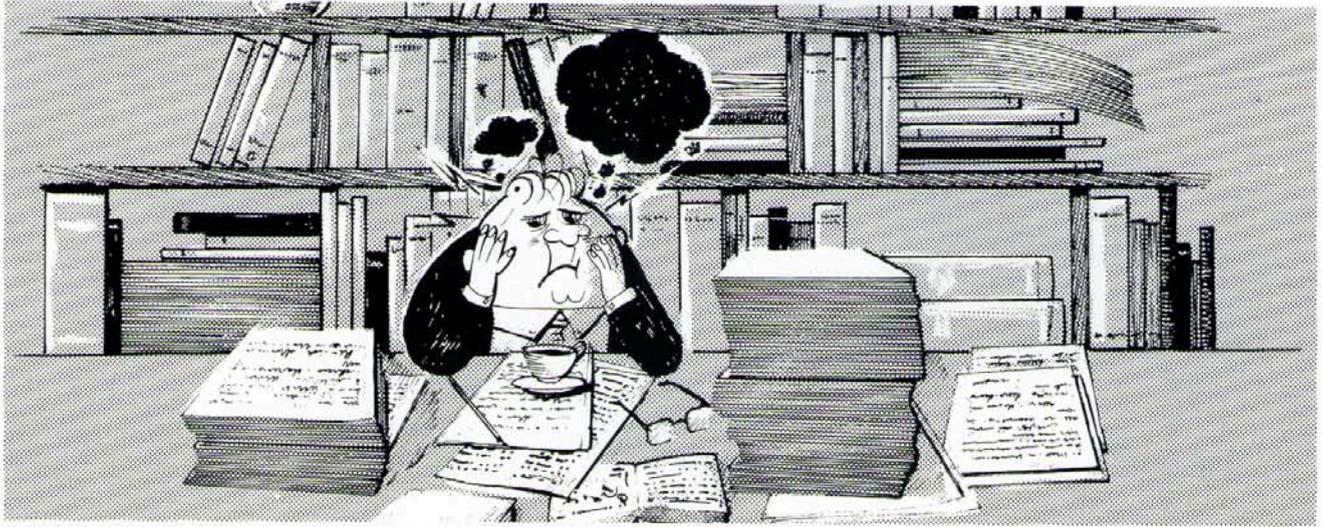
Marking of exam papers can be a breeze using a computer program

Every year 60 to 80 students at teaching hospitals around Australia and New Zealand sit the examination to become Fellows of the Royal Australasian College of Radiologists.

For the past six years Dr Mike Gibson, a member of the College, has processed the multiple-choice section of the radiology examination using the services of WARCC consultant Dr Doris Braund.

The entry of students' answers onto disk is coordinated by Doris who then runs the program to mark them automatically. The final results are provided to Dr Gibson in the form of printed output.

"We employ procedures which minimise the possibility of mistakes being made in the process of transferring the students' answers to disk. Once the results have been entered and verified a typical interactive run takes about five seconds," Doris said.

Students can be asked to indicate their answers on specially printed documents which are then read by machine and the answers are automatically written to disk The document-reader is capable of detecting errors which are

logged for checking. However, in this case the answers are transferred manually from the answer papers through the keyboard to disk and are verified by a second person.

The radiology examination is marked using a stand-alone program which Doris has maintained to Dr Gibson's requirements.

The results show the final score as a percentage and give the mean and standard deviation. Because the College uses 60% as a pass mark for the other four sections of the examination, the program has been written to adjust the pass mark (usually the mean score) to 60% and also to adjust all other marks accordingly.

In addition, the program assesses each series of answers to provide an indication of the discriminatory value of the questions in distinguishing between good and poor candidates.

For those who do not have or need their own program, examinations can be marked by the more general *TESTAN* (TEST_ANalysis) program, available on the program library on the VAXA.

TESTAN provides a defined set of options for marking and processing results and has been used over the years by several University departments including Medicine, Surgery and Microbiology.

Mrs. Kathleen Brown, Administrative Secretary of the Department of Surgery at Royal Perth Hospital, was enthusiastic in her comments on computer marking of exams taken by 5th and 6th year students.

"The system has worked beautifully with absolutely no hitches and WARCC staff have gone to a great deal of trouble to ensure that everything runs smoothly," she said.

Doris pointed out that WARCC facilities provide a range of options for customer involvement, stating that "At one extreme the entire marking process can be done by us and, at the other, customers can use the document reader to do the processing themselves."

For further information on marking examinations using *TESTAN*, Doris can be contacted on 380 3564.

Postmaster Assists Users Worldwide

WARCC "postmaster" Gaye Harvey enjoys the challenge of solving problems

Users of the electronic MAIL system on VAXA will probably be familiar with the name Gaye Harvey.

Gaye has been "postmaster" at the Centre for the past three years and provides an invaluable service to MAIL users around the world. She has noted that since the recent introduction of *AARNet* (The Australian Academic and Research Network) there has been increased interest in electronic mail (email).

"Although *AARNet* does not yet give VAXA users much more than they had before, it has made people more aware of what is available," Gaye said.

The postmaster is responsible for basic maintenance of the MAIL system—logging, monitoring and billing, and also providing user assistance relating to the system, such as how to use MAIL and NEWS, format addresses and initiate contact from people who have an account on WARCC's VAXA machine to other systems.

"I also assist remote users to contact people within the University of WA. They may ask 'Does John Smith have email access and, if so, what is his address?' I then let them know or sometimes forward hard copies via internal mail but this is not a regular service," she said.

Another postmaster duty is forwarding of mail which has been incorrectly addressed. This may entail sending mail to several likely users, for example if the mail is addressed simply to "Jeff" or "Louise".

However, the actual message is not forwarded until a likely recipient has been identified.

The most interesting aspects of the role of postmaster for Gaye are finding new connections, new networks or ways around problems. She quoted the example of the UK which sometimes presents problems.

"Some of their more reliable gateways are subscription only and will not forward to non-subscribed sites. At one stage we had to get around this by forwarding through two gateways."

One aspect of her work which Gaye feels uncomfortable with is invasion of privacy.

On this point she stated that "I don't check other people's mail deliberately but handling failed mail sometimes involves reading messages to determine the intended recipient. I am, of course, committed to confidentiality, but I still find that it goes against deeply ingrained principles to read other people's mail."

She emphasised that users should not consider email a secure medium for confidential information. For example, it does not share the same legislative protection as does regular mail (called "snail mail" by some email buffs).