

TRAINING - EUROPEAN APPROACHES

J.E.Gaskin,  
Logging Development  
Officer,  
LIRA

INTRODUCTION

On a recent study tour to gain better knowledge and experience in the methods of implementing the results of research, the author visited several countries in Europe. Training techniques and facilities, as a link between research and development, were discussed with numerous organisations in these countries. Due to the insufficient passage of time between the end of the tour and writing this paper, a full correlation of the information is not yet available. For the purpose of this paper, a description of a State-run, forest workers school in Sweden, is given.

This school, in size and layout, is typical, and the various courses offered are basically the same as in any of the other countries visited. There are slight differences in length and level of instruction, but these depend more on the type of machines being used and the social climates of the various countries, i.e. in Sweden it is expected that an operator will do all his small repairs and assist the mechanic with larger repairs, whereas in Britian, due to the strength of the Unions in some areas, problems with demarkation may occur.

Before starting the body of this paper it is interesting to point out some of the more obvious differences between the level of training in Europe and New Zealand.

1. The Europeans have made a firm commitment to training in the industry. This ensures that developed machines are used correctly, as there are adequate facilities to train operators.
2. The closer proximity of the machine manufacturers makes it easier to obtain training aids such as films of machinery, cut-away models of components, etc.
3. There is a higher commitment by the manufacturers to training in Europe, i.e. when buying machines part of the deal negotiated is training or conversion of operators to the machines.
4. Although the questions of cost and productivity are important, these are not necessarily the dominating factors in Europe, as tends to happen in New Zealand.
5. The level and length of courses are both higher and longer than anything considered in New Zealand, i.e. to train a harvester operator he would have had two years basic forest education, ten weeks forwarder operator course, maybe a three-week processor operator course, and he would have to do a three week harvester operator course. In other words, upwards of two and a half years have been spent training.

6. Those employed in training are some of the best motivated people in the industry in Europe.

#### FOREST SCHOOL AT SÖDRA VIKEN

The school is one of twenty-six of this type spread throughout Sweden. It employs nineteen teachers and has five administration staff. Salaries are all paid by the State, while building and equipment etc. are all covered by the local country. Course participants pay a token amount to cover their food and lodgings. The school also has some 400 hectares of forest which it uses for training and it also has access to unlimited amounts of private forest land. The County's interest is administered by an Advisory Board which also helps to decide on what extra courses are needed, i.e. for farmers etc. The Board meets only twice a year and relies on the guidelines of the Headmaster.

#### Types of Courses Run

1. Two Year Basic Forest Work Course. This is the main function of the school and over two years it covers all basic concepts of forest work, from land preparation and establishment to harvestin. The course gives the students a very brief look at machines being used in the forest but no detail of their operation.
2. Machine Operators Course. Normally for forwarder, but also cover basic skidder operation. This is a ten week course and covers the following main areas:

<u>Subject</u>	<u>Lecture (1 hr)</u>	
<u>Work Organisation</u>		
Labour market questions	3	
Labour market organisation	3	
Trade questions	<u>4</u>	10
<u>Machine Instruction</u>		
Mechanics	10	
Materials science	20	
Machine elements	10	
Drawings and diagrams	10	
Vehicle instruction	20	
Hydraulics	40	
Pneumatics	15	
Electrical engineering	40	
Engine instruction	45	
Repair and servicing	35	
Workplace safety matters	<u>5</u>	250
<u>Work</u>		
Mechanised woodcutting	10	
Transport	70	
Economic calculations and work bargaining	10	
Workplace safety matters	<u>10</u>	100
<u>Ergonomics</u>		
Physical environment factors	<u>10</u>	10
<u>Nature Protection</u>		
Environment protection matters	<u>10</u>	<u>10</u>
<u>TOTAL</u>		380 hours

3. Foremans Course. This is twenty weeks for people who have done the two year basic and maybe a special course, i.e. forwarder who want to become a forest foreman. They must have had at least two to three years practical forest work experience.
4. Farm Forestry Course. One week. This is for farmers who have agricultural backgrounds and who want forest background as well. The course concentrates on planning forest operations; the power saw; and agricultural tractor. The latter are hired as required for the course. The school staff also travel out to the field to instruct these people as required.
5. Unemployed Persons Course. Ten weeks. Covers all aspects of forest work up to and including forwarder extraction. This is a course for those people that have either been made redundant or cannot get work since leaving school. Applications are all screened by the schools and are particularly difficult to get on.
6. Basic Course for Forest Workers. One year. Students must be over 18 years old. Covers similar ground material to that of the two year course, only condensed.
7. Short Courses. Several courses including:
  - Improved economics - 3-5 days
  - Cross-cutting and timber measurement - 1 week
  - Release cutting techniques - 1 week
  - Winch thinning - 1 week
  - Mechanics for forest machine operations - 1 week

### Equipment and Training Aids

#### Lecture Rooms

These are all equipped with blackboards, overhead projector facilities, video points, 8 & 16 mm and slide projectors, flip charts, etc. They are large enough to comfortably hold 24 people. There are nine such rooms. There are also rooms with benches and vices, and other tools for instruction in machinery maintenance, as well as chainsaw service room etc.

There is one room specifically for cleaning chainsaws after a day's work. This is equipped with benches, troughs, extractor fans. A large garage serves as an area to carry out instruction work on machines. This garage comfortably holds four mini-brunett size forwarders. The area is approximately 357 square metres and has sufficient head room to fit a harvester in.

#### Machinery

- (1) Forwarders - 9: 3 Brunetts, 3 Skokums, 1 Ösa, 1 Volvo, and 2 old forwarders of a dubious make. 1 skidder and 4 static cranes. These cranes are electrically powered with the option of six hydraulic controls or two into six electric over hydraulic.
- (2) Chainsaws - Seventy to eighty Partners. All are hired on a two year contract. When a basic forest line worker is given a saw it is his until he leaves the school, thus his responsibility to maintain it.

#### Miscellaneous Aids

There is a multitude of various aids from a wide range of cut-away parts such as hydraulic banks, fuel pumps, to an electrically powered tractor with all moving parts exposed.

The school has various manuals as published by machine manufacturers, chainsaw companies, research organisations such as Skogsarbeten.

Films and slides are obtained whenever they can.

Ergonomic equipment, i.e. pulse rate counters, decibel recorders, etc. They also have an exercycle to simulate a tired or working person.

Wall charts which explain such things as electrical systems, hydraulic systems, etc. These have been purchased from various suppliers such as Sperry & Vickers.

Simulators - these can be used to simulate faults in hydraulic system or electrical systems, and can be used for students to practice connecting systems up.

#### DISCUSSION

A factual account has been presented here of a typical basic training school in Europe. No attempt has been made to go into detail of course content or to justify such content or course length. It would be a grave mistake to try to directly transfer what is being done elsewhere into New Zealand. This has been tried before and either totally failed or only had marginal or fractional success. If the industry is to take the proposed increase in harvest over the next twenty years seriously, then the time to talk about lead time etc. is over. Schools, such as the one described here, are for school leaver who would want a career in forest industry, and are needed in New Zealand now. This must be a service which is available to all, from large company to small individual contractors, and must therefore be subscribed to by everybody. It is essential that the full range of forest operations are taught to give future forest workers a broad understanding of the jobs they are doing.