JLP in use

The **MELA** system since 1989. MELA is a forestry model that integrates stand management planning and forest-wide production planning into a single hierarchical optimization problem. Besides regional and national analyses, MELA is currently used for stand level forest management planning by state, private and industrial forestry organizations in Finland.
MELA is being developed and maintained by the Finnish Forest Research Institute.

GAYA-JLP since 1991. GAYA-JLP is the forest management planning system developed by H.F. Hoen at the Agricultural University of Norway.

GISMELA since 1994. GISMELA is a forest management planning application developed by T. Nuutinen at the Finnish Forest Research Institute. GISMELA integrates a GIS with the MELA system and utilizes effectively JLP transformations and macros.

For further information

Lappi, J. 1992. JLP
A linear programming package
for management planning
The Finnish Forest Research Institute
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ENGLISH

JLP

Linear Programming Package for Management Planning

MELA
Team

What is the JLP?

JLP is a general linear programming package for solving *Model I* type forest management planning and conventional LP problems.

JLP is characterized by its easy problem definition and its outstanding capacity and speed in solving large multilevel LP problems.

JLP is the work of Dr. Juha Lappi at the Finnish Forest Research Institute.

Efficient optimization algorithm

- generalized upper bound technique for built-in area constraints

Domains for multilevel optimization

- simultaneous constraints for any groups of management units defined by such management unit level variables as location, owner group, management category, site type, and administrational district.

Transformations

- generation of new variables
- generation of new management schedules
- rejection of management schedules
- splitting of management units

Mode of operation

- more than 50 commands with options for problem definition and job control
- interactive or batch
- nested command files and macros
- support for user-supplied user interface

Capacity

- the largest JLP problems so far solved on UNIX servers have contained more than 100 000 management units and 2 mill. management schedules with 10 forest-wide constraints

Portability

- portable FORTRAN 77 code running on DOS, Windows, OS/2, Macintosh, UNIX and VMS
- precompiler for system-dependent parameters and options, incl. problem size

Delivery alternatives

- executable stand-alone versions, fixed memory allocation
- object modules for linking user-supplied data access, report writer and interface modules, fixed memory allocation
- source code and precompiler for full integration with other software products, user-definable memory allocation

Requirements

- user-supplied data for the management options of the management units
- a PC, workstation or mainframe computer and sufficient CPU, memory and disk capacity with regard to the tasks in issue
- (for source code version only) FORTRAN 77 compiler