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**Environmental Gradients  
of  
Potential Rangeland Vegetation  
in the  
Interior Pacific Northwest**  
A Chart Book

**Volume 4**  
Series

by:

*Larry L. Walker*  
Range Conservationist

Oregon State Office  
Bureau of Land Management

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## INTRODUCTION

This report presents a series of graphs representing environmental gradients of most potential rangeland vegetation types found in the interior Pacific Northwest. The specific area of coverage includes all of Land Resource Region B and those portions of Land Resource Region D that are included within the states of Oregon and Idaho (Natural Resource Conservation Service 1981).

The report comes in five volumes with environmental gradients for each of five different classification systems as follows:

- Volume 1    Compiled by Interior Columbia Basin Ecosystem Management Project (ICBEMP) Potential Vegetation Types.
- Volume 2    Compiled by Society of American Foresters (SAF) Forest Cover Types (Eyre 1980) and Society for Range Management (SRM) Rangeland Cover Types (Shiflet 1994)
- Volume 3    Compiled by Natural Heritage Program (NHP) ELCODEs (Bourgeron and Engelking 1994, Kagan and others 1996)
- Volume 4    Compiled by Series
- Volume 5    Compiled by Association

Gradients are presented for each of the following environmental factors:

- Precipitation
- Frost Free Period
- Soil Temperature Regime
- Soil Depth
- Soil Texture
- Elevation
- Slope and Aspect

One graph per environmental factor is presented for each of the following levels of compilation:

- Combined Report Area (1)
- Each Land Resource Region (2)
- Each Major Land Resource Area (12)

The gradients were compiled from information provided in **Range Site Descriptions**.

"A range site is a distinctive kind of rangeland that differs from other kinds of rangeland in its ability to produce a characteristic natural plant community. A range site is the product of all the environmental factors responsible for its development. It is capable of supporting a native plant community typified by an association of species that differs from that of other range sites in the kind or proportion of species or in total production" and "The natural plant community of a range site in the absence of abnormal disturbances and physical site deterioration is the climax plant community for that site (original and natural potential are acceptable synonyms for climax ). It is the total plant community that is best adapted to the unique combination of environmental factors. It should be the plant community that is in dynamic equilibrium with the environment. Such natural disturbances as drought, wild fires, grazing of native fauna, and insects are inherent in the development of any native plant community. Plant communities that are protected from these natural influences for long periods do not always typify the climax vegetation" (Natural Resource Conservation Service 1976).

A range site may be viewed as a phase of a habitat type.

"The habitat type is defined as the aggregate areal extent of a plant association that an area supports or is capable of again supporting (Daubenmire 1952). Although not stated in specific terms, the range site classification is also a land classification based on the plant association that is constrained by levels of productivity (Dyksterhuis 1949; Shiflet 1973). The added constraint of productivity makes the range site a more homogeneous land unit in terms of uniformity in species abundance and soils than the habitat type" (Hironaka 1987).

Range sites are identified and described in conjunction with the National Cooperative Soil Survey. Proposed range site descriptions are then reviewed, correlated, and approved by the State Rangeland Conservationists of the Natural Resource Conservation Service (formerly Soil Conservation Service).

Three hundred seventy-six range site descriptions from Oregon (256), Washington (48), and Idaho (72) were reviewed and entered into a database table (OASIS database under development) in the summer and fall of 1995. This included all approved range site descriptions for Oregon; Oregon descriptions proposed in conjunction with the Harney county Ecological Site Inventory (ESI); Washington descriptions for all soil phases identified in BLM ESIs; and Idaho descriptions for all BLM lands included in "subsample watersheds" evaluated during the ICBEMP mid-scale exercise. While not totally complete, most major types should be adequately represented for the report area.

During that review, each range site description was also classified under each of the five classification systems used in this report.



Unfortunately, vegetation classification is not an exact science. Many range sites can quite legitimately be placed in more than one class. The groupings that have been made represent the author's effort to place each range site into the "best fit" class consistent with the purpose and assumptions of each of the classification systems. One of the primary purposes of the ICBEMP classification, for example, is to group lands by similar successional dynamics for modeling with the Vegetation Dynamics Development Tool (Beukema and Kurz 1995). Therefore, site behavior was afforded some preference over floristic composition when range sites were assigned to this classification system. The written discussions were used for guidance in assigning range sites to the SAF and SRM systems. Assignments to the NHP classifications were made more on the basis of an association concept.

Series and Association were handled as a natural classification with an open legend and a set of rules. Associations were classified strictly on the basis of a single dominant tree, shrub, and herb on the basis of composition (not height). In addition, no layer was included in a class unless that lifeform comprised at least 10% of the composition. Even with these rules, some flexibility was applied to control the number of classes. Bluebunch wheatgrass and Idaho fescue, for example, frequently occur together in more or less co-dominance. Range sites in this situation were assigned to an Idaho fescue association only if the site description indicated that the amounts of bluebunch wheatgrass were minor. As an illustration, a basin big sagebrush site description specifying 30-60% Idaho fescue and 15-30% bluebunch wheatgrass would have been assigned to the basin big sagebrush/bluebunch wheatgrass association. The dominant species in the tallest layer in the association name is the Series.

The graphs that present the environmental gradients show an "optimum" range and a "marginal" range. These were calculated by compiling the minimums and maximums from the range site data. Optimum was then calculated as the range from the average of minimums to the average of maximums. Marginal was calculated as one-half of the range from the average of minimums to the minimum of minimums, and as one-half of the range from the average of maximums to the maximum of maximums. Given three range site descriptions in a set with elevations as follows:

Site A	1000	to	2000
Site B	2000	to	3000
Site C	1500	to	2500

The average of minimums is 1500 and the average of maximums is 2500, so "optimum" is 1500 to 2500. The minimum of minimums is 1000, so "marginal" on the minimum side is 1250 to 1500. The maximum of maximums is 3000, so "marginal" on the maximum side is 2500 to 2750.

Using this approach, there is no marginal range calculated for classes that included only one site description, or where multiple descriptions specified exactly the same range. Also, not all site descriptions provided information for all seven factors evaluated. Therefore, the number of range site descriptions that were used to make the gradient calculations are shown in parenthesis for each class on each graph.

## REFERENCES

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- Shiflet, T.N., ed. 1994. Rangeland cover types of the United States. Society for Range Management. Denver, CO. 152pp.
- In addition to the above, the range site descriptions listed in the "Legend and Range Site Groupings" section that follows are incorporated as references.

LEGEND and RANGE SITE GROUPINGS  
by  
SERIES

AGSP BLUEBUNCH WHEATGRASS

007XY014OR	1986	LOAMY 8-10 PZ
007XY015OR	1986	SHALLOW LOAM 8-10 PZ
007XY020OR	1986	SOUTH 8-10 PZ
008AY001WA	1987	LOAMY 9-12 PZ
008AY013WA	1985	LOAMY 12-15 PZ
008AY018WA	1985	SOUTH EXPOSURE 12-15 PZ
008AY020WA	1984	NORTH EXPOSURE 12-15 PZ
008XY017WA	1986	SANDY LOAM 12-15 PZ
008XY024WA	1983	NORTH SLOPE 9-12 PZ
008XY028WA	1986	SHALLOW STONY 12-16 PZ
008XY031WA	1986	LOAMY 12-15 PZ
008XY110OR	1987	LOAMY 10-12 PZ
008XY140OR	1987	SHALLOW LOAM 12-14 PZ
008XY200OR	1987	SOUTH 10-14 PZ
008XY210OR	1987	SHALLOW SOUTH 10-14 PZ
009XY027OR	1989	MOUNTAIN VERY SHALLOW 13+ PZ
009XY029OR	1989	SOUTH 14-17 PZ
009XY031OR	1989	SHALLOW SOUTH 14+ PZ
009XY034OR	1989	MOUNTAIN SOUTH 13-17 PZ
009XY035OR	1989	MOUNTAIN SOUTH 17-24 PZ
009XY036OR	1989	MOUNTAIN SHALLOW SOUTH 13+ PZ
010XB022OR	1990	JD CLAYEY 9-12 PZ
010XB027OR	1990	JD CLAYEY 12-16 PZ
010XB042OR	1990	JD CLAYEY SOUTH 9-12 PZ
025XY020OR	1991	SOUTH SLOPES 11-13 PZ
043XY019WA	1990	LOAMY 15-20 PZ

ARARS LOW SAGEBRUSH

010AY006ID	1985	CLAYEY 11-14 PZ
010AY038ID	1992	STONY CLAYEY 8-16 PZ
010XB029OR	prop	CLAYPAN 9-12 PZ
010XB080OR	1990	MOUNTAIN CLAYPAN 12-16 PZ
011BY013ID	1982	SHALLOW LOAMY 8-12 PZ
011XY013ID	1982	SHALLOW LOAMY 8-12 PZ
012XY002ID	1981	SHALLOW LOAM 12-16 PZ
012XY025ID	1980	SHALLOW SUBALPINE 16+ PZ
013XY014ID	1979	SHALLOW STONY 12-16 PZ
021XY204OR	1989	SHALLOW STONY 10+ PZ

021XY214OR	1989	CLAYPAN 14-18 PZ
021XY216OR	1989	STONY CLAYPAN 14-18 PZ
021XY306OR	1989	STONY CLAYPAN SOUTH 14-18 PZ
021XY310OR	1989	SHALLOW NORTH 14-18 PZ
023XY214OR	1988	CLAYPAN 10-12 PZ
023XY215OR	prop	SHALLOW GRAVELLY-LOAM 10-12 PZ
023XY216OR	1988	CLAYPAN 12-16 PZ
023XY218OR	1988	THIN SURFACE CLAYPAN 10-16 PZ
023XY312OR	prop	SHALLOW NORTH 12-16 PZ
023XY324OR	prop	SHALLOW SWALE 10-14 PZ
023XY410OR	1988	GRAVELLY RIDGE 12-16 PZ
023XY412OR	1988	GRAVELLY RIDGE 16+ PZ
023XY504OR	prop	UNKNOWN
023XY507OR	prop	
025XY010ID	1981	SHALLOW CLAYPAN 12-16 PZ
025XY016OR	1991	SHALLOW LOAM 11-13 PZ
025XY017OR	1991	SHALLOW GRAVELLY LOAM 11-13 PZ
025XY018OR	1991	SHALLOW LOAM 13-16 PZ
025XY026OR	1991	SHALLOW SOUTH SLOPES 13-16 PZ
025XY038OR	1991	SHALLOW NORTH SLOPES 11-13 PZ
025ZZ003ID	1978	SHALLOW 16+ PZ

ARARN BLACK SAGEBRUSH

012XY001ID	1981	LIMEY GRAVELLY 8-13 PZ
013XY011ID	1979	WINDSWEPT RIDGE 12-16 PZ
024XY021OR	1986	THIN SURFACE 8-14 PZ

ARCA13 SILVER SAGEBRUSH

021XY108OR	1989	INTERMITTENT LAKE
023XY200OR	1988	PONDED CLAY
025XY032ID	1982	CLAY BASIN 12-16 PZ
025XY035ID	1981	CHURNING CLAY 12-16 PZ

ARRI2 STIFF SAGEBRUSH

007XY006WA	1991	SHALLOW STONY 6-9 PZ
007XY019WA	1991	VERY SHALLOW 6-12 PZ
008BY008WA	1991	THIN SHALLOW 9-12 PZ
008XY007WA	1981	VERY SHALLOW 9-18 PZ
009XY025WA	1986	VERY SHALLOW 15-18 PZ
010XC038OR	1990	SR VERY SHALLOW 9-12 PZ
010XC039OR	1990	MOUNTAIN VERY SHALLOW 12-16 PZ
010XC040OR	1990	MOUNTAIN VERY SHALLOW 16-20 PZ

## ARTR4 THREETIP SAGEBRUSH

010AY023ID	1981	LOAMY 12-16 PZ
010AY035ID	1992	LOAMY BASIN 11-13 PZ
012XY008ID	1979	DRY GRAVELLY 13-16 PZ
012XY010ID	1982	NORTH SLOPE LOAMY 12-16 PZ
023XY314OR	1988	GRAVELLY NORTH SLOPES 12-16 PZ

## ARTRT BASIN BIG SAGEBRUSH

007XY001WA	1991	LOAMY BOTTOM 6-12 PZ
007XY010OR	1986	SANDY BOTTOM
007XY018WA	1987	SANDS 6-9 PZ
008AY005WA	1987	CALCAREOUS LOAM 9-12 PZ
008XY001WA	1981	SHALLOW STONY 9-12 PZ
008XY003WA	1981	NORTH EXPOSURE 9-12 PZ
008XY007WA	1981	NORTH EXPOSURE 12-15 PZ
010AY022ID	1980	LOAMY 12-16 PZ
010XB016OR	1990	SWALE 12-16 PZ
010XB019OR	1990	GUNBO 9-12 PZ
010XB020OR	1990	GRAVELLY FAN 9-12 PZ
010XB051OR	1990	JD SHALLOW SOUTH 9-12 PZ
010XC013OR	1990	SWALE 9-12 PZ
010XC014OR	1990	MOUNTAIN SWALE 9-12 PZ
010XC017OR	1990	MOUNTAIN SWALE 12-16 PZ
010XC018OR	1990	SR ADOBELAND 9-12 PZ
010XC025OR	1990	GRAVELLY FAN 12-16
011AY003ID	1983	SHALLOW FRACTURED 8-12 PZ
011AY009ID	1983	LOAMY 8-12 PZ
011AY014ID	1983	SANDY 8-12 PZ
011BY004ID	1979	SANDY 8-12 PZ
011XY005OR	1991	SWALE 9-11 PZ
011XY016OR	1991	SANDY 9-11 PZ
011XY032OR	1991	SILTY NORTH SLOPES 9-11 PZ
012XY011ID	1979	ALLUVIAL BOTTOM 8-13 PZ
021XY100OR	1989	DRY FLOODPLAIN 10+ PZ
021XY302OR	1989	NORTH SLOPES 10-14 PZ
023XY009OR	prop	DRY BASIN
023XY019OR	prop	SILT LOAM TERRACE 10-12 PZ
023XY102OR	1988	SANDY BOTTOM
023XY104OR	1988	LOAMY BOTTOM
023XY202OR	prop	SWALE 10-14 PZ
023XY213OR	prop	SANDY LOAM 10-12 PZ
023XY222OR	prop	SHALLOW LAVA 10-12 PZ
023XY301OR	prop	DROUGHTY SOUTH SLOPES 11-13 PZ
023XY301OR	PROP	DROUGHTY SOUTH SLOPES 11-13 PZ
023XY303OR	prop	SANDY SLOPES 10-12 PZ
024XY004OR	1986	DRY FLOODPLAIN

024XY005OR	1986	SODIC DUNES
024XY007OR	prop	DRY PONDED CLAY 6-10 PZ
024XY009OR	PROP	DRY BASIN
024XY018OR	prop	SANDY LOAM 8-10 PZ
024XY110OR	prop	DUNES
024XY113OR	prop	SODIC FAN 6-10 PZ
025XY007OR	1991	SWALE 11-13 PZ
025XY008OR	1991	SWALE 13-16 PZ
025XY012OR	1991	LOAMY 11-13 PZ
025XY024ID	1981	LOAMY UPLAND 12-16 PZ
025XY028ID	1981	LOAMY BOTTOM 12-16 PZ
025XY032OR	1991	NORTH SLOPES 11-13 PZ

ARTRV MOUNTAIN BIG SAGEBRUSH

010AY004ID	1980	LOAMY 12-16 PZ
010AY005ID	1980	GRAVELLY LOAM 12-16 PZ
010AY008ID	1980	NORTH SLOPE LOAMY 16-20 PZ
010AY009ID	1980	SOUTH SLOPE STONY 12-16 PZ
010AY013ID	1980	NORTH SLOPE LOAMY 18-24 PZ
010AY020ID	1980	MIXED SHRUB 12-16 PZ
010AY031ID	1992	BOULDERY LOAM 12-16 PZ
010XC019OR	1990	DRY MOUNTAIN SWALE 12-16 PZ
010XC032OR	1990	SR MOUNTAIN CLAYEY 12-16 PZ
010XC033OR	1990	SR MOUNTAIN LOAMY 12-16 PZ
010XC037OR	1990	SR MOUNTAIN SHALLOW 12-16 PZ
010XC047OR	1990	SR MOUNTAIN SOUTH 12-16 PZ
010XC051OR	1990	HIGH MOUNTAIN SOUTH 16-20 PZ
010XC053OR	1990	HIGH MOUNTAIN LOAM 18+ PZ
010XC054OR	1990	SR MOUNTAIN SHALLOW SOUTH 12-16 PZ
010XC055OR	1990	MOUNTAIN SHALLOW SOUTH 16-20 PZ
010XC066OR	1990	SR MOUNTAIN NORTH 12-16 PZ
010XC075OR	1990	SR MOUNTAIN SHALLOW NORTH 12-16 PZ
012XY012ID	1984	LOAMY 13-16 PZ
012XY021ID	1979	LOAMY 16-22 PZ
012XY024ID	1980	SUBALPINE SLOPE LOAMY 20+
013XY001ID	1979	LOAMY 13-16 PZ
013XY008ID	1979	STEEP SLOPES 12-16 PZ
013XY023ID	1980	LOAMY 16-22 PZ
013XY028ID	1981	SHALLOW SAND 12-16 PZ
013XY031ID	1982	STEEP STONY SLOPES 16-22 PZ
013XY047ID	1986	SHALLOW FRACTURED LOAMY 16-22 PZ
021XY308OR	1989	SOUTH SLOPES 14-18 PZ
023XY302OR	1988	SOUTH SLOPES 12-16 PZ
023XY310OR	1988	NORTH SLOPES 12-16 PZ
023XY318OR	1988	LOAMY 12-16 PZ
023XY320OR	1988	DEEP LOAMY 12-16 PZ
023XY400OR	1988	LOAMY 16-20 PZ

023XY4020R	1988	DEEP SOUTH SLOPES 16+ PZ
023XY4040R	prop	DEEP NORTH 12-18 PZ
023XY4060R	1988	MOUNTAIN SWALE
023XY5010R	prop	UNKNOWN
023XY5020R	prop	UNKNOWN
023XY5090R	prop	UNKNOWN
025XY008ID	1980	STONY NORTH SLOPE 12-16 PZ
025XY012ID	1982	LOAMY 13-16 PZ
025XY0140R	1991	LOAMY 13-16 PZ
025XY022ID	1981	LOAMY 16+ PZ
025XY023ID	1981	NORTH SLOPE LOAMY 16+ PZ

ARTRW WYOMING BIG SAGEBRUSH

007XY003WA	1987	SANDY LOAM 6-9 PZ
007XY004WA	1987	SANDY 6-9 PZ
007XY005WA	1991	LOAMY 6-9 PZ
007XY007WA	1991	SHALLOW 6-12 PZ
008AY002WA	1986	STONY LOAM 9-12 PZ
008AY007WA	1988	SHALLOW STONY 9-12
008BY001WA	1991	LOAMY 9-12 PZ
008BY002WA	1991	LOAMY NORTH EXPOSURE 9-12 PZ
008BY010WA	1991	LOAMY 12-15 PZ
008XY002WA	1991	LOAMY 9-12 PZ
010AY032ID	1992	BOULDERY 11-13
010XC0200R	1990	SR LOAMY 9-12 PZ
010XC0210R	1990	SR CLAYEY 9-12 PZ
010XC0300R	1990	SR MOUNTAIN LOAMY 9-12 PZ
010XC0310R	1990	SR MOUNTAIN CLAYEY 9-12 PZ
010XC0350R	1990	SR SHALLOW 9-12 PZ
010XC0360R	1990	SR MOUNTAIN SHALLOW 9-12 PZ
010XC0430R	1990	SR CLAYEY SOUTH 9-12 PZ
010XC0500R	1990	SR SHALLOW SOUTH 9-12 PZ
010XC0570R	prop	SHALLOW ESCARPMENT 9-12 PZ
010XC0640R	1990	SR NORTH 9-12 PZ
010XC0650R	1990	SR MOUNTAIN NORTH 9-12 PZ
011AY002ID	1980	SHALLOW LOAMY 8-12 PZ
011AY004ID	1981	LOAMY 8-12 PZ
011AY005ID	1978	CLAYPAN 8-12 PZ
011AY010ID	1978	CHURNING CLAY 8-12 PZ
011BY019ID	1983	LOAMY 7-10 PZ
011BY020ID	1983	SHALLOW FRACTURED 7-12 PZ
011XY0100R	1991	SILTY 6-9 PZ
011XY0120R	1991	SILTY 9-11 PZ
011XY014ID	1981	SANDY LOAM 8-12 PZ
011XY0180R	1991	SHALLOW LOAM 9-11 PZ
011XY0200R	1991	SOUTH SLOPES 6-11 PZ
011XY0220R	1991	SHALLOW ESCARPMENT 6-11 PZ

011XY0300R	1991	SILTY NORTH SLOPES 6-9 PZ
012XY004ID	1981	GRAVELLY LOAM 8-12 PZ
012XY005ID	1982	SOUTH SLOPE GRAVELLY 11-13 PZ
012XY030ID	1981	LOAMY 7-10 PZ
012XY032ID	1983	LOAMY 8-11 PZ
023XY204OR	1988	SHALLOW LOAM 8-10 PZ
023XY212OR	1988	LOAMY 10-12 PZ
023XY220OR	1988	CLAYEY 10-12 PZ
023XY308OR	1988	NORTH SLOPES 10-12 PZ
023XY316OR	1988	DROUGHTY LOAM 12-14 PZ
024XY008OR	prop	CLAYEY PLAYETTE
024XY014OR	1986	SODIC TERRACE 6-10 PZ
024XY016OR	1986	LOAMY 8-10 PZ
024XY017OR	1986	SHALLOW LOAM 8-10 PZ
024XY020OR	1986	SHRUBBY LOAM 8-10 PZ
024XY030OR	1986	LOAMY SLOPES 6-10 PZ
024XY033OR	1986	NORTH SLOPES 6-10 PZ
025XY005ID	1980	LOAMY 12-16 PZ
025XY006ID	1980	STONY SOUTH SLOPE 10-13 PZ
025XY007ID	1980	SHALLOW LOAMY UPLAND 10-14 PZ
025XY009ID	1980	LOAMY 12-16 PZ
025XY010OR	1991	LOAMY 8-11 PZ
025XY019ID	1981	LOAMY 10-13 PZ
025XY020ID	1981	LOAMY 7-10 PZ
025XY024OR	1991	SHALLOW SOUTH SLOPES 11-13 PZ
025XY030OR	1991	DROUGHTY NORTH SLOPES 11-13 PZ

ATCA2      FOURWING SALT BUSH

011XY014OR	1991	SANDY 6-9 PZ
024XY012OR	1986	SANDY 6-10 PZ

ATCO      SHADSCALE

011XY010ID	1981	CALCAREOUS LOAM 7-10 PZ
024XY010OR	1986	CLAY BASIN 6-8 PZ
024XY013OR	1986	SODIC FAN 6-10 PZ
024XY015OR	1986	DESERT LOAM 6-10 PZ
024XY031OR	1986	SHALLOW SLOPES 6-10 PZ

CANE2      NEBRASKA SEDGE

024XY117OR	PROP	BASIN WET MEADOW
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CAREX      SEDGE

023XY503OR	PROP	OPEN SLOPES 25-35 PZ
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CELE3 CURLLEAF MOUNTAINMAHOGANY

010XB057OR	1990	JD MAHOGANY ROCKLAND 9-12 PZ
010XC058OR	1990	GREASEBUSH-MAHOGANY ROCKLAND 9-12 PZ
010XC059OR	1990	MAHOGANY ROCKLAND 12+ PZ
012XY015ID	1979	STEEP LIMESTONE 13-16 PZ
021XY402OR	1989	ROCKY RIDGES 14+ PZ
023XY408OR	1988	ROCKY RIDGES 12-16 PZ
023XY510OR	prop	UNKNOWN

DECA5 TUFTED HAIRGRASS

009XY026WA	1986	WET MEADOW 15-24 PZ
010XY002OR	1990	MOUNTAIN MEADOW
010XY004OR	1990	MEADOW
023XY416OR	1988	WET MEADOW
043XY005WA	1985	WET MEADOW - HAIRGRASS

ELCI2 BASIN WILDRYE

009XY001WA	1986	ALKALI BOTTOM 15-18 PZ
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ELEOC SPIKERUSH

023XY100OR	1988	LAKEBED
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ELTR3 CREEPING WILDRYE

024XY118OR	PROP	BASIN DRY MEADOW
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EPHED MORMON-TEA

024XY032OR	1986	SOUTH SLOPES 6-10 PZ
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EULA5 WINTERFAT

007XY020WA	1983	CALCAREOUS LOAM 6-9 PZ
024XY011OR	1986	SILTY 6-10 PZ

FEID IDAHO FESCUE

006XA204OR	1989	SOUTH SLOPES 20-40 PZ
006XY004WA	1985	LOAMY 15-18 PZ
008XY018WA	1984	LOAMY 12-15 PZ
008XY120OR	1987	LOAMY 12-14 PZ
008XY220OR	1987	NORTH 10-14 PZ
009XY010OR	1989	LOAMY 14-17 PZ
009XY013OR	1989	LOAMY 17-22 PZ

009XY015OR	1989	CLAYEY 14-17 PZ
009XY016OR	1989	CLAYEY 17-22 PZ
009XY017OR	1989	MOUNTAIN LOAMY 13-17 PZ
009XY018OR	1989	MOUNTAIN LOAMY 17-24 PZ
009XY020OR	1989	SHALLOW CLAYEY 14-17 PZ
009XY021OR	1989	SHALLOW CLAYEY 17-22 PZ
009XY022OR	1989	MOUNTAIN SHALLOW 13+ PZ
009XY040OR	1989	NORTH 14-17 PZ
009XY042OR	1989	LOW ELEVATION NORTH 14-17 PZ
010XB063OR	1990	JD NORTH 9-12 PZ
010XB070OR	1990	JD NORTH 12-16 PZ
FEOV	SHEEP FESCUE	
023XY505OR	PROP	SUBALPINE THIN SURFACE 35-40 PZ
GLSP	SPINY GREASEBUSH	
010XC044OR	1990	SOUTH SCHIST 9-12 PZ
010XC052OR	1990	SHALLOW SOUTH SCHIST 9-12 PZ
GRSP	SPINY HOPSAGE	
011XY024OR	1991	SHRUBBY ESCARPMENT 9-11 PZ
JUOC	WESTERN JUNIPER	
023XY217OR	prop	JUNIPER TABLELAND 12-16 PZ
025XY017ID	1981	SHALLOW BREAKS 10-18 PZ
JUOS	UTAH JUNIPER	
025XY013ID	1980	JUNIPER SAVANNA 10-14 PZ
PIPO	PONDEROSA PINE	
006XA304OR	1989	LOAMY 20-40 PZ
006XB206OR	1989	PINE-BITTERBRUSH-SNOWBRUSH-FESCUE
006XY017WA	1983	LOAMY 20-45 PZ DROUGHTY
010XC080OR	1990	MAHOGANY MOUNTAIN LOAM 14-18 PZ
010XC082OR	1990	DRY PINE 14-16 PZ
021XY414OR	1989	PONDEROSA PINE-FESCUE
043XY006WA	1989	UPLAND 15-18 PZ
043XY010OR	prop	PINE - BITTERBRUSH
043XY012OR	prop	PINE - SNOWBERRY
043XY013OR	prop	FIR - PINE - SEDGE

POLE LEIBERG BLUEGRASS

023XY4140R 1988 DRY MEADOW

PONE3 NEVADA BLUEGRASS

025XY0040R 1991 DRY MEADOW

POSE SANDBERG BLUEGRASS

008BY009WA 1991 VERY SHALLOW 9-15 PZ  
 008XY1500R 1987 VERY SHALLOW 10-14 PZ  
 009XY0250R 1989 VERY SHALLOW 14+ PZ

POTR5 QUAKING ASPEN

006XB1000R 1989 WET MEADOW  
 021XY4120R 1989 LOAMY 18+ PZ  
 021XY4160R 1989 ASPEN GROVE  
 023XY4180R prop ASPEN GROVE  
 025XY030ID 1981 MOUNTAIN BRUSH 18-22 PZ

POTR6 BLACK COTTONWOOD

010XY0050R 1990 LOAMY BOTTOM  
 010XY0110R 1990 GRAVELLY BRAIDED BOTTOM  
 011XY0010R 1991 LOAMY BOTTOM

PRVI COMMON CHOKECHERRY

009XY0140R 1989 DEEP LOAM 17-22 PZ  
 009XY0410R 1989 DEEP NORTH 14-17 PZ  
 009XY0460R 1989 DEEP NORTH 17-24 PZ  
 010XC0670R 1990 SHRUBBY MOUNTAIN NORTH 16-20 PZ

PSME DOUGLAS-FIR

043XY007WA 1989 LOAMY UPLAND 15-20 PZ

PUTR2 ANTELOPE BITTERBRUSH

006XB2000R 1989 PINE-JUNIPER-BITTERBRUSH-FESCUE  
 006XB2020R 1989 PONDEROSA PINE-FESCUE  
 006XB2040R 1989 PINE-BITTERBRUSH-MANZANITA-FESCUE  
 006XY001WA 1981 LOAMY 18+ PZ  
 007XY0110R 1986 SANDS 8-10 PZ  
 008AY010WA 1986 SANDY LOAM 9-12 PZ  
 008AY011WA 1987 SANDY 9-12 PZ

008AY017WA	1985	SANDY 12-15 PZ
008AY019WA	1986	SHALLOW SOUTH EXPOSURE 12-15 PZ
008AY021WA	1987	STONY NORTH EXPOSURE 12-15 PZ
008AY034WA	1988	SHALLOW LOAM 9-12 PZ
008XY012WA	1981	LOAMY 12-15 PZ
010XB028OR	1990	SHRUBBY MOUNTAIN CLAYEY 12-16 PZ
010XB045OR	1990	JD CLAYEY SOUTH 12-16 PZ
010XB046OR	1990	SHRUBBY MOUNTAIN SOUTH 12-16 PZ
010XB071OR	1990	SHRUBBY MOUNTAIN NORTH 12-16 PZ
010XB082OR	1990	SHRUBBY MOUNTAIN CLAYPAN 12-16 PZ
010XC034OR	1990	SHRUBBY MOUNTAIN LOAM 16-20 PZ
010XC049OR	1990	SHRUBBY MOUNTAIN SOUTH 16-20 PZ
010XC056OR	1990	TERRACE ESCARPMENT 9-12 PZ
010XY003ID	1979	LOAMY 16-20 PZ
013XY027ID	1981	SAND 12-16 PZ
021XY200OR	1989	LOAMY 10-14 PZ
021XY202OR	1989	SHALLOW LOAM 10-14 PZ
021XY206OR	1989	DEEP LOAMY 10-14 PZ
021XY208OR	1989	SANDY 10-14 PZ
021XY210OR	1989	LOAMY 14-18 PZ
021XY212OR	1989	SHALLOW LOAM 14-18 PZ
021XY300OR	1989	SOUTH SLOPES 10-14 PZ
021XY312OR	1989	NORTH SLOPES 14-18 PZ
021XY410OR	1989	DEEP LOAMY 16-20 PZ
023XY210OR	1988	PUMICE 10-12 PZ
023XY300OR	1988	SOUTH SLOPES 8-12 PZ
025XY034OR	1991	NORTH SLOPES 13-16 PZ

QUGA4 OREGON WHITE OAK

006XA100OR	1989	SANDY BOTTOM
006XA200OR	1989	SOUTH SLOPES 14-20 PZ
006XA202OR	1989	NORTH SLOPES 14-20 PZ
006XA300OR	1989	LOAMY 14-20 PZ
006XA302OR	1989	STEEP SOUTH SLOPES 20-40 PZ

ROSA+ ROSE

009XY043OR	1989	LOW ELEVATION DEEP NORTH 14-17 PZ
009XY048OR	1989	SHALLOW NORTH 17-24 PZ

SAGE2 GEYER WILLOW

006XB102OR	1989	COLD WET MEADOW
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SALIX WILLOW

010XY001OR	1990	WET MOUNTAIN MEADOW
010XY003OR	1990	WET MEADOW
010XY006OR	1990	MOUNTAIN LOAMY BOTTOM
010XY012OR	1990	MOUNTAIN BRAIDED BOTTOM
012XY023ID	1979	SEMIWET MEADOW - CAREX
021XY406OR	1989	WET MEADOW
025Z2004ID	1982	SEMI-WET MEADOW

SAVE4 BLACK GREASEWOOD

010XY007OR	1990	SODIC BOTTOM
010XY008OR	1990	SODIC MEADOW
011XY003OR	1991	SODIC BOTTOM
021XY102OR	1989	SODIC FLAT 10+ PZ
021XY104OR	1989	SALINE MEADOW
024XY001OR	1986	SODIC FLAT
024XY002OR	1986	SODIC MEADOW
024XY003OR	1986	SODIC BOTTOM
024XY112OR	PROP	DRY SODIC FLOODPLAIN
024XY114OR	PROP	SODIC LAKE TERRACE

STCO4 NEEDLEANDTHREAD

007XY012OR	1986	SANDY 8-10 PZ
007XY013OR	1986	SANDY LOAM 8-10 PZ
007XY025OR	1986	SANDY NORTH 8-10 PZ
008XY130OR	1987	SANDY LOAM 10-12 PZ

SYAL COMMON SNOWBERRY

009XY030OR	1989	SOUTH 17-22 PZ
009XY045OR	1989	NORTH 17-24 PZ



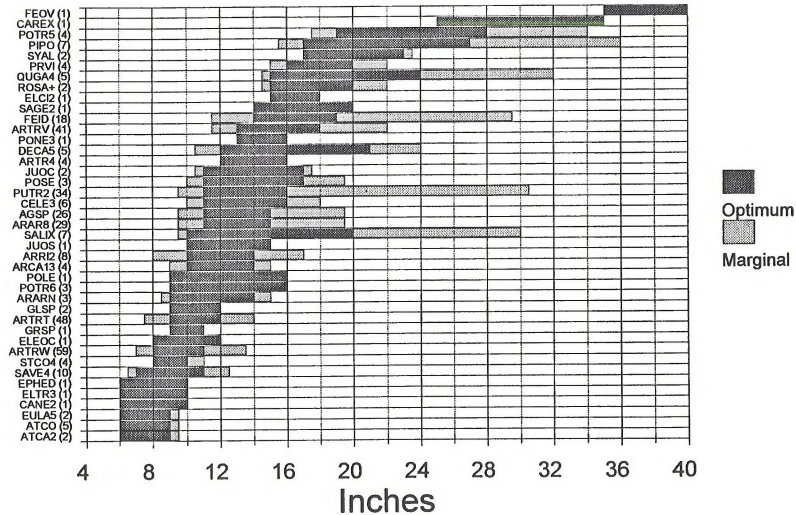
**Section 1**

**Compiled  
by  
Combined Report Area**

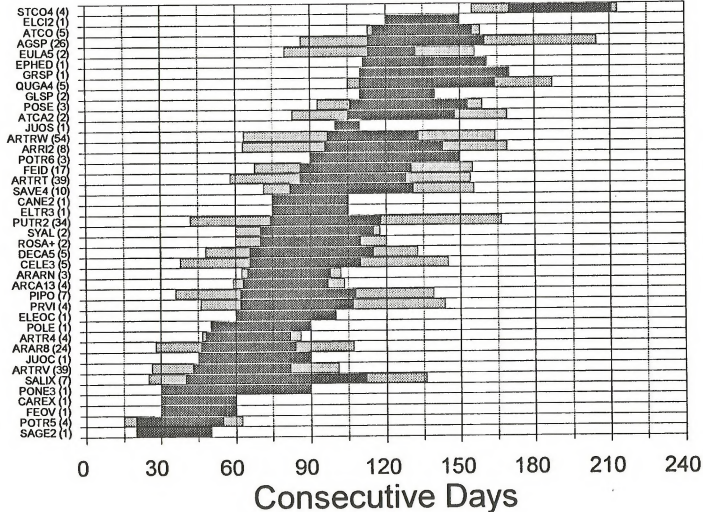




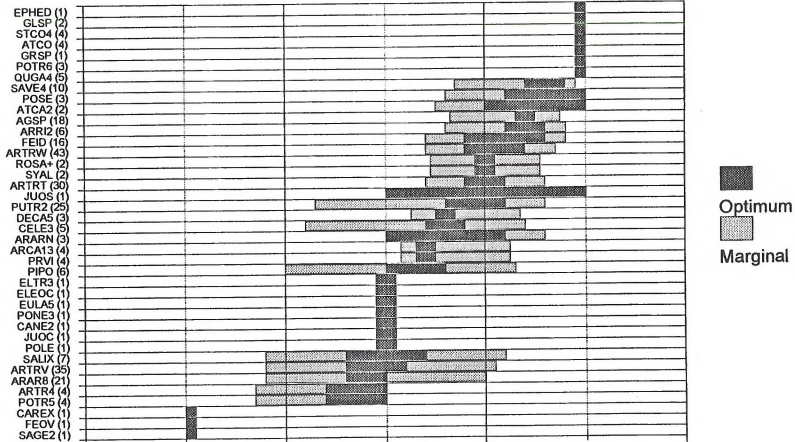
# Precipitation



# Frost Free Period

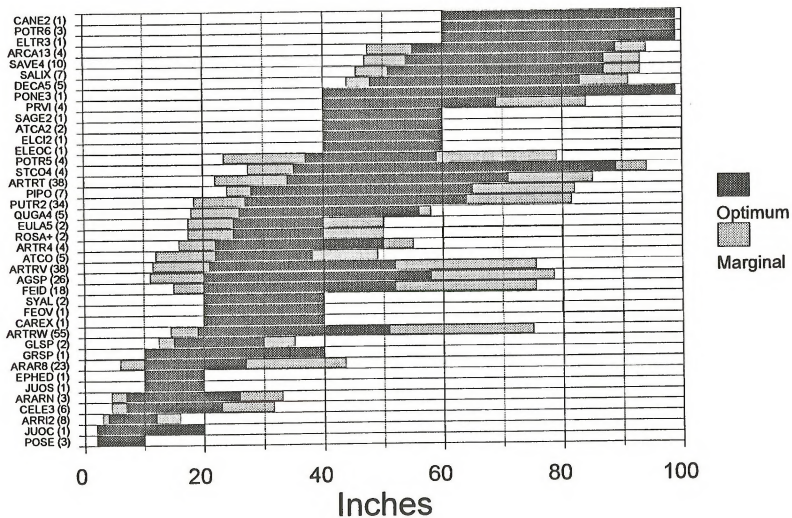


# Soil Temperature Regime

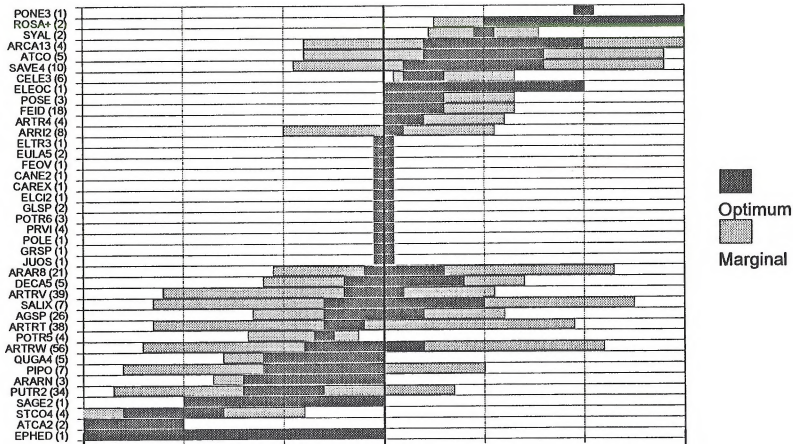


<-Cryic-----Frigid-----Mesic->

# Soil Depth

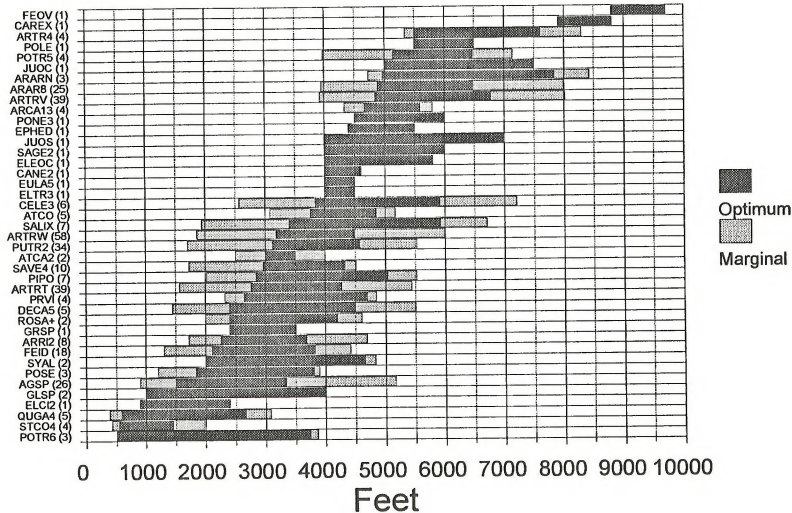


# Soil Texture

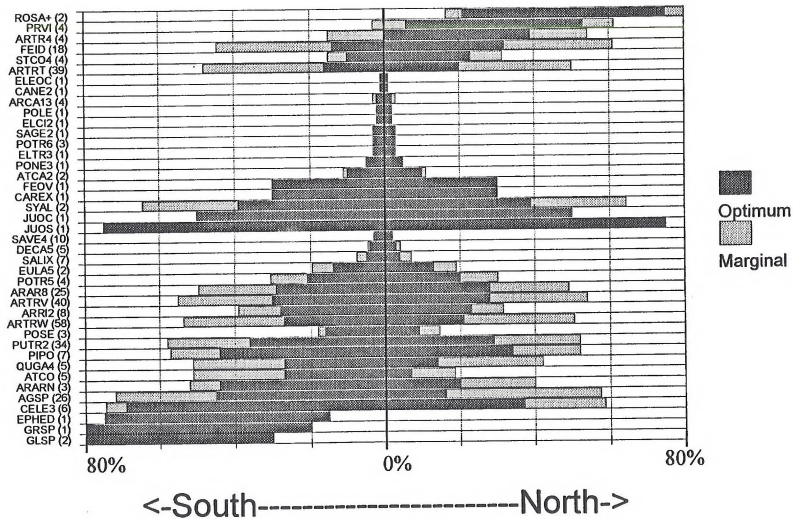


<-Sandy-----|-----Clayey->

# Elevation



# Slope and Aspect





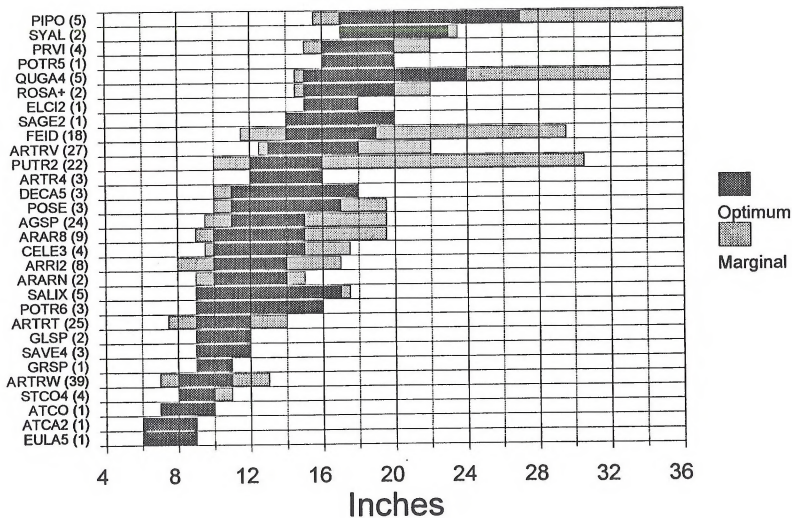


**Section 2**

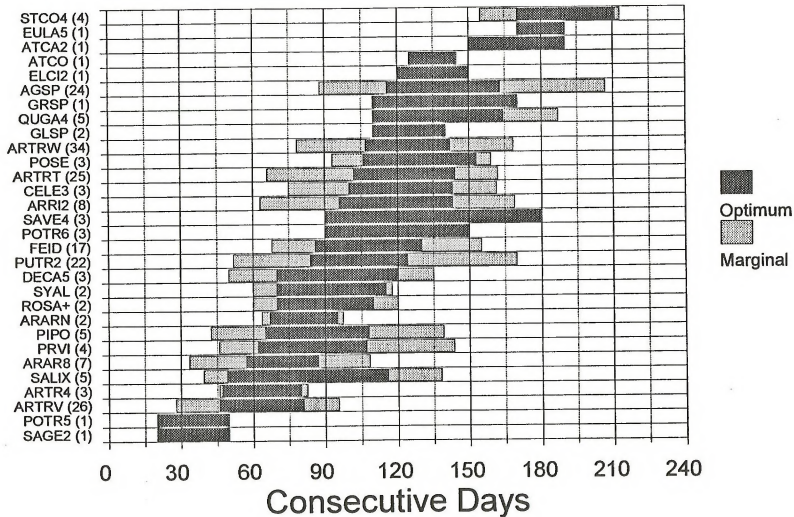
**Compiled  
by  
Land Resource Region**



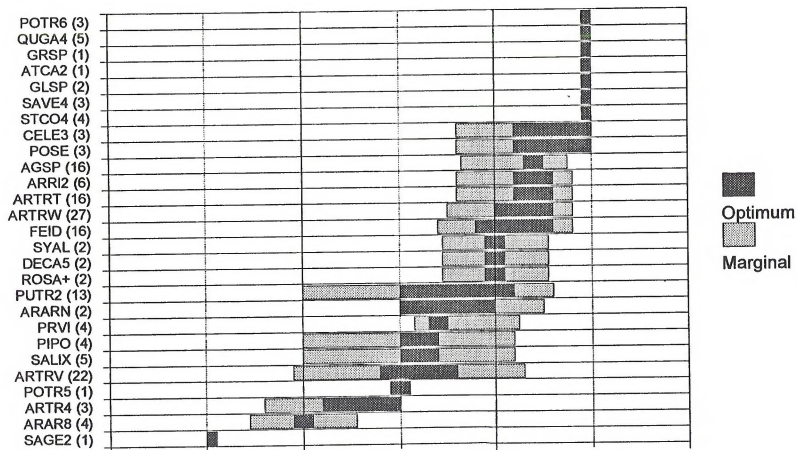
# Precipitation (LRR B)



# Frost Free Period (LRR B)

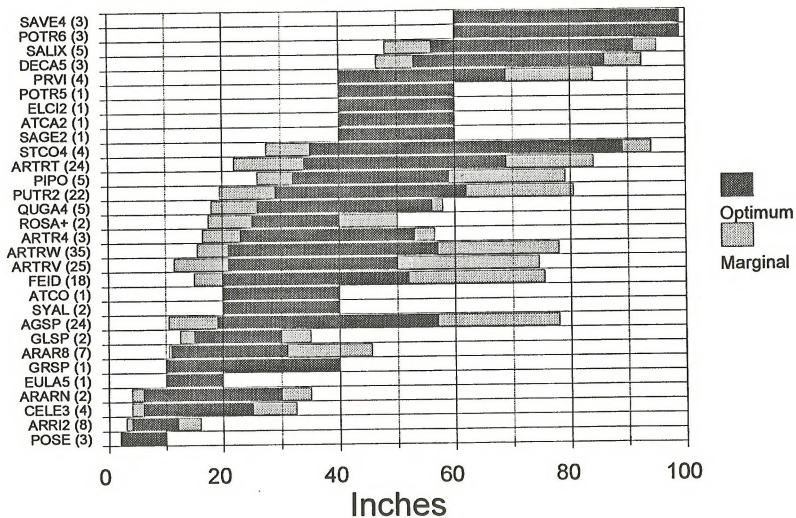


# Soil Temperature Regime (LRR B)

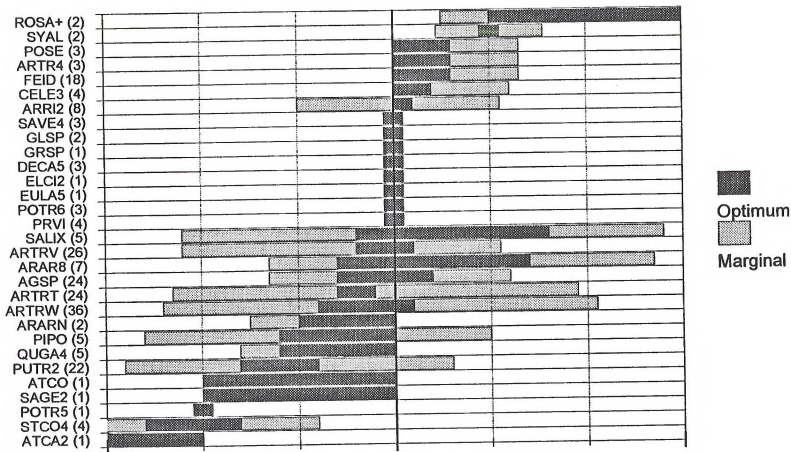


<-Cryic-----Frigid-----Mesic->

# Soil Depth (LRR B)

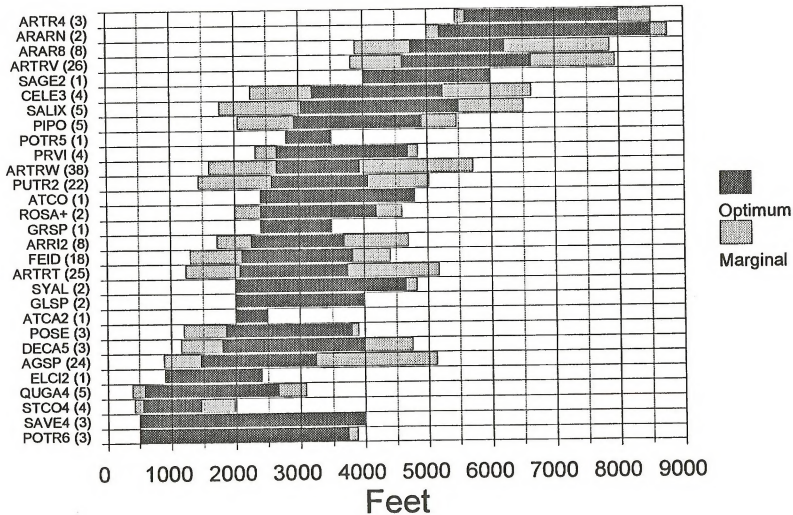


# Soil Texture (LRR B)



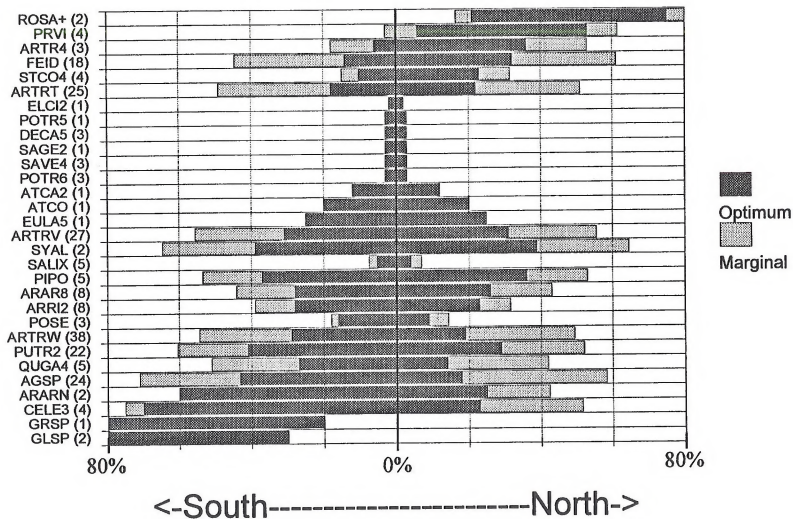
<-Sandy-----|-----Clayey->

# Elevation (LRR B)



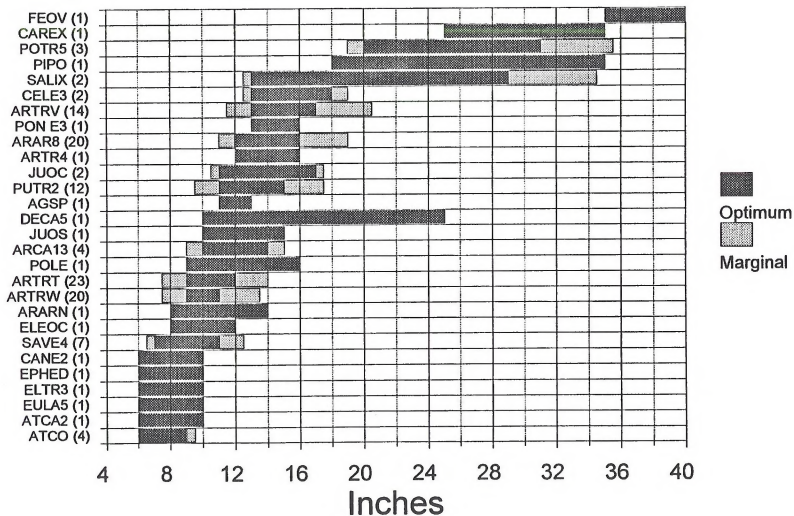


# Slope and Aspect (LRR B)

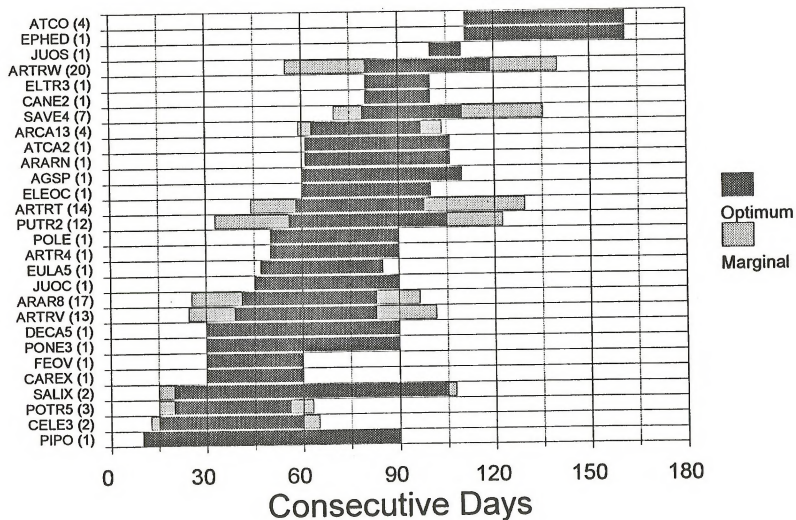




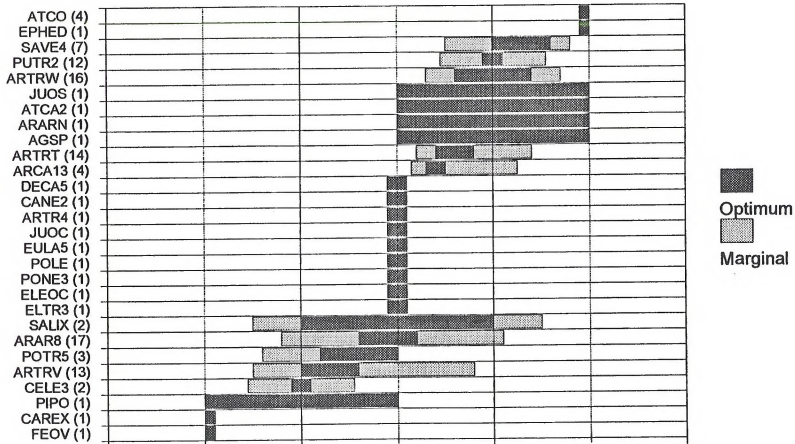
# Precipitation (LRR D)



# Frost Free Period (LRR D)

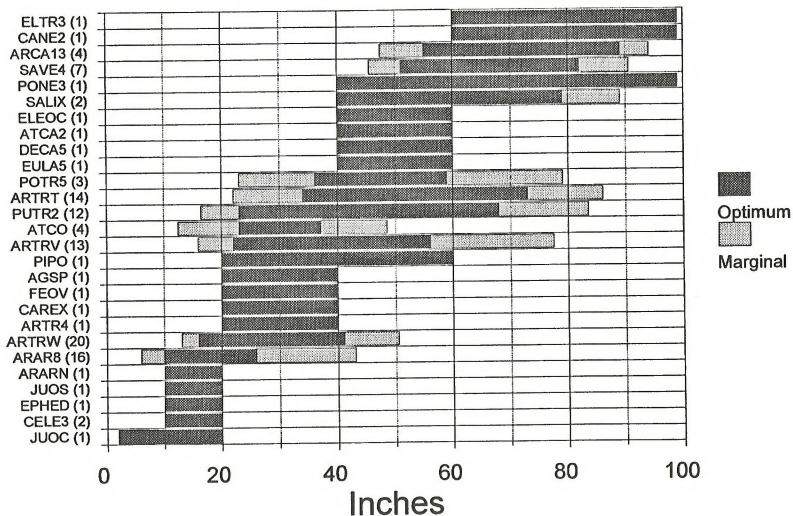


# Soil Temperature Regime (LLR D)

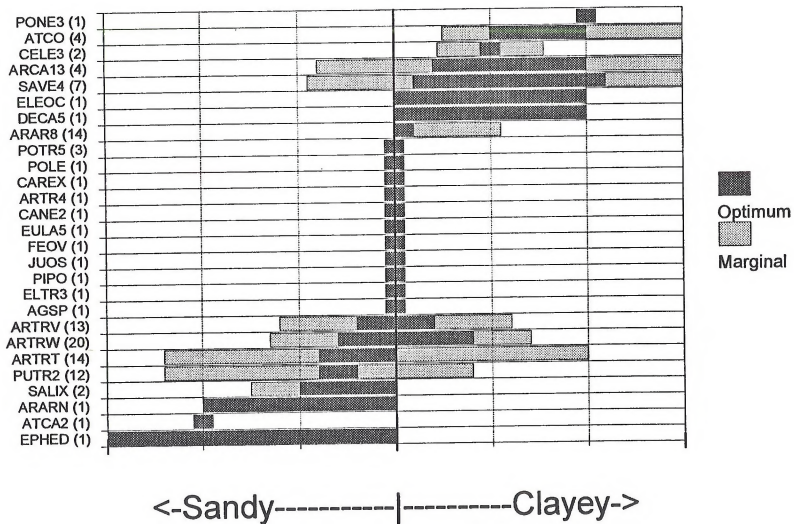


<-Cryic-----Frigid-----Mesic->

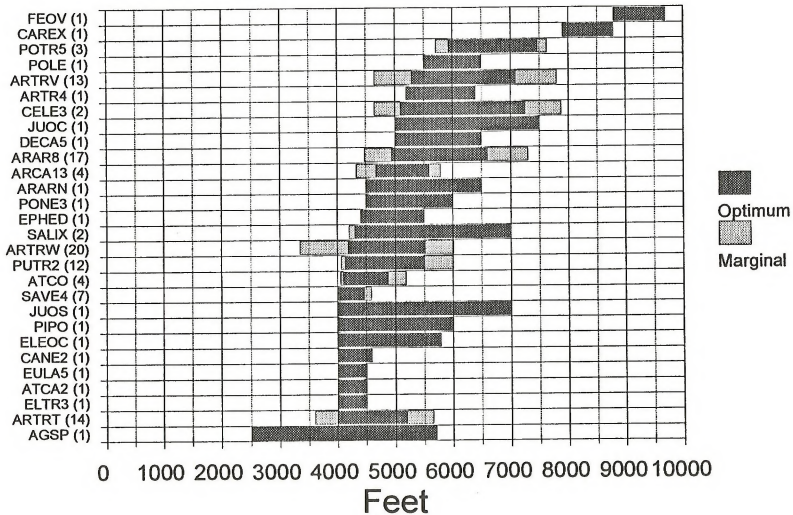
# Soil Depth (LRR D)



# Soil Texture (LRR D)

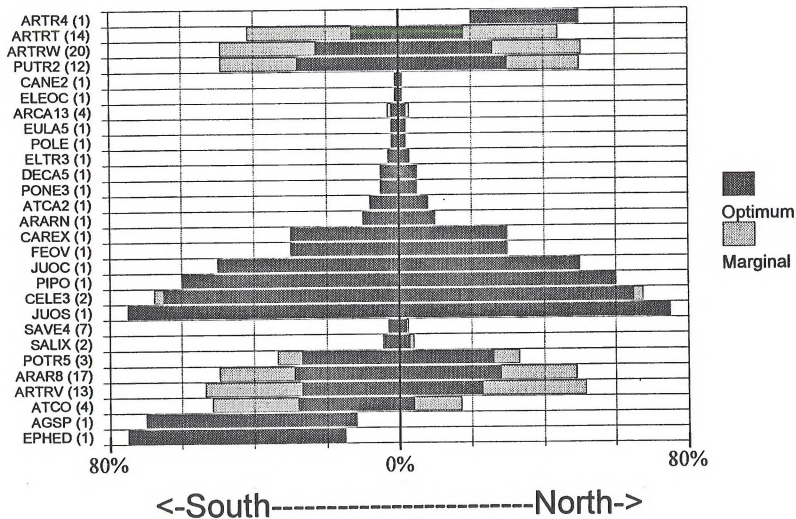


# Elevation (LLR D)





# Slope and Aspect (LRR D)



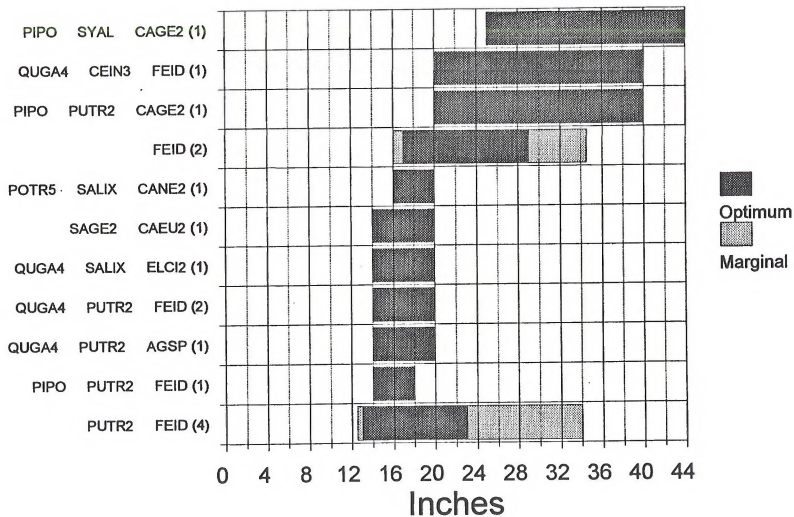


**Section 3**

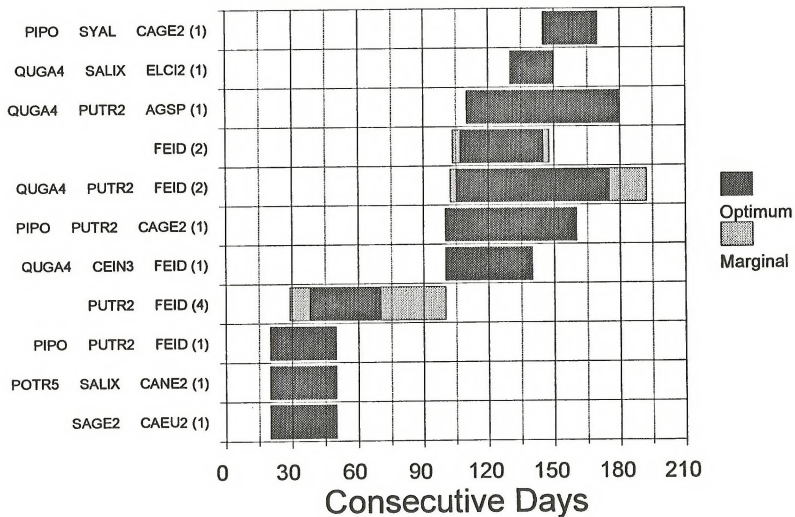
**Compiled  
by  
Major Land Resource Area**



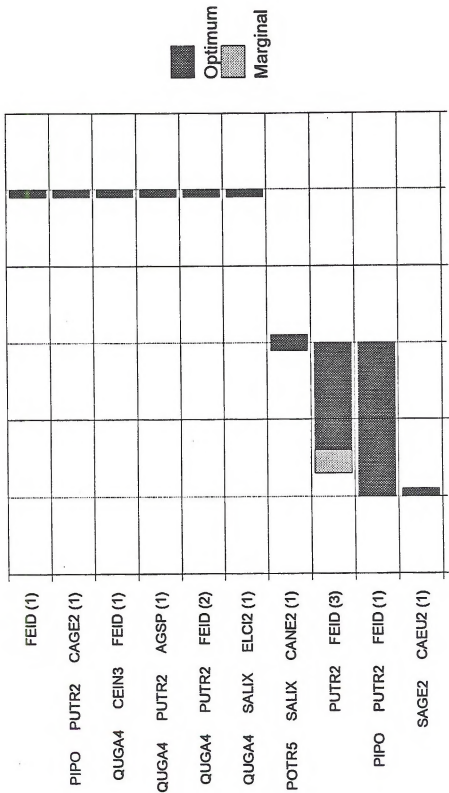
# Precipitation (MLRA B6)



# Frost Free Period (MLRA B6)

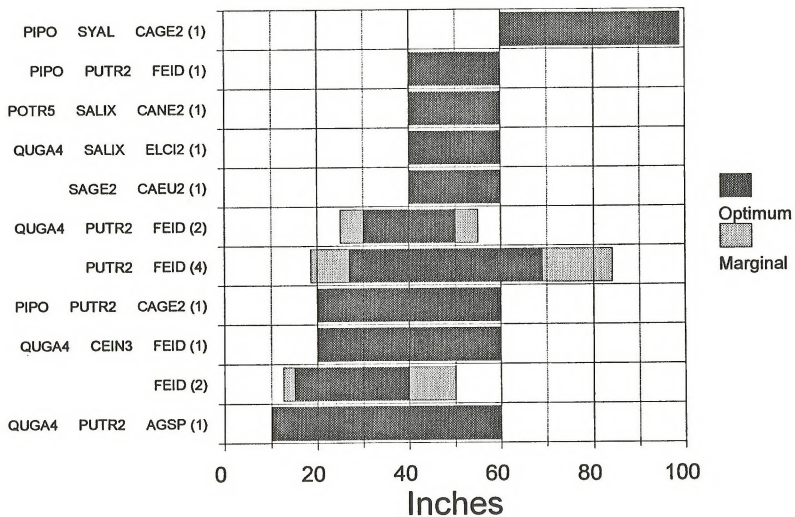


# Soil Temperature Regime (MLRA B6)



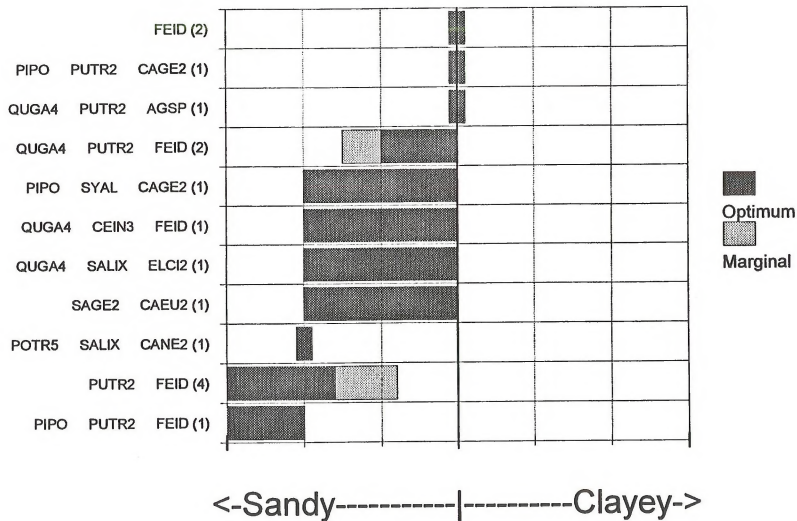
<-Cryic-----Frigid-----Mesic->

# Soil Depth (MLRA B6)

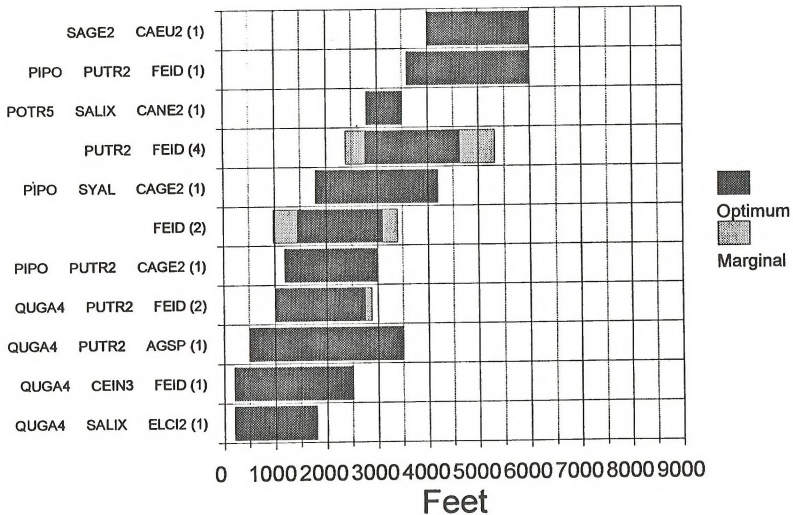




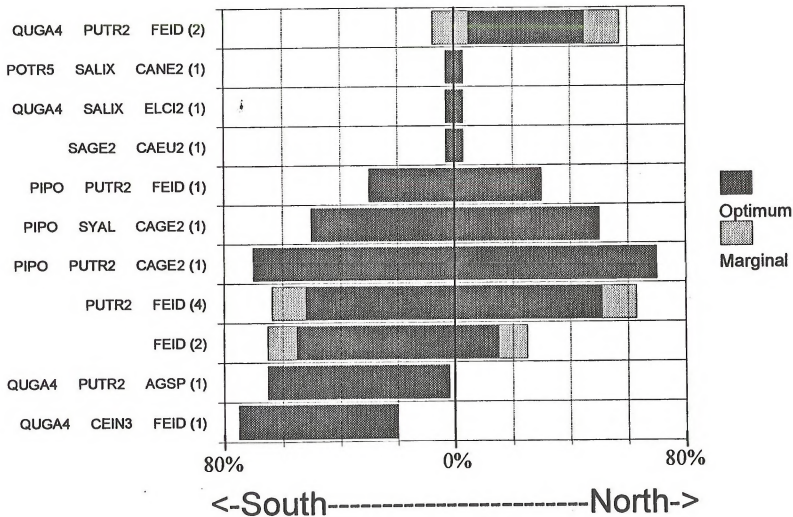
# Soil Texture (MLRA B6)



# Elevation (MLRA B6)

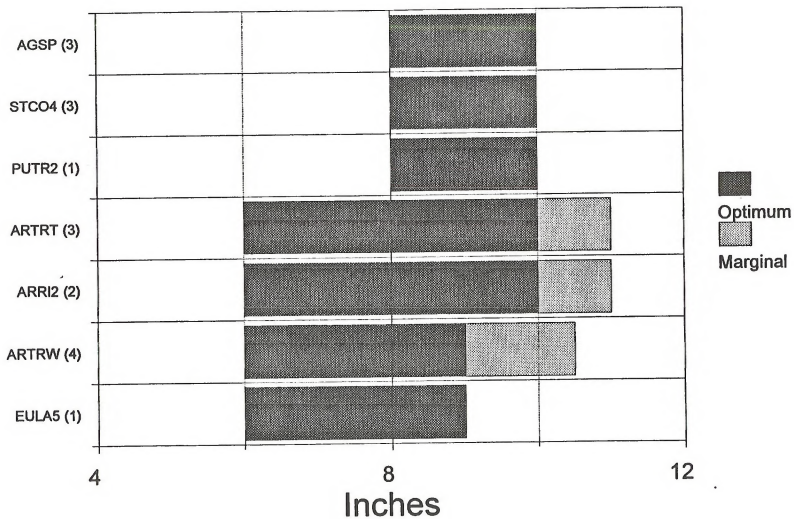


# Slope and Aspect (MLRA B6)

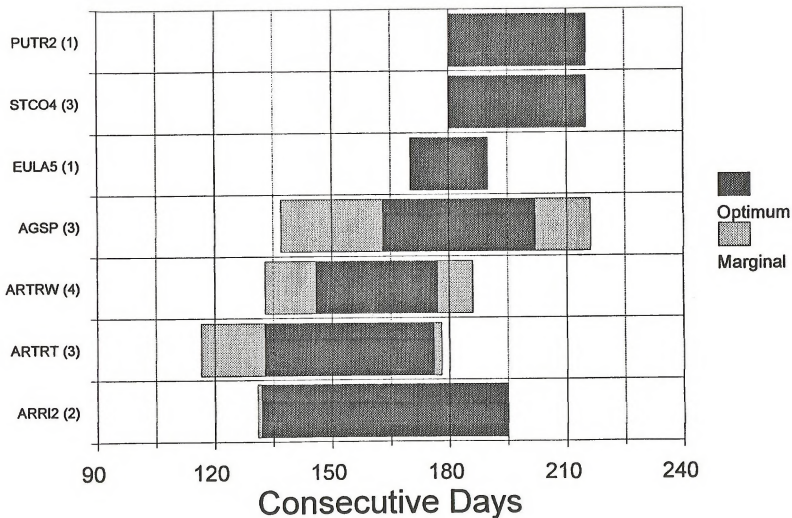




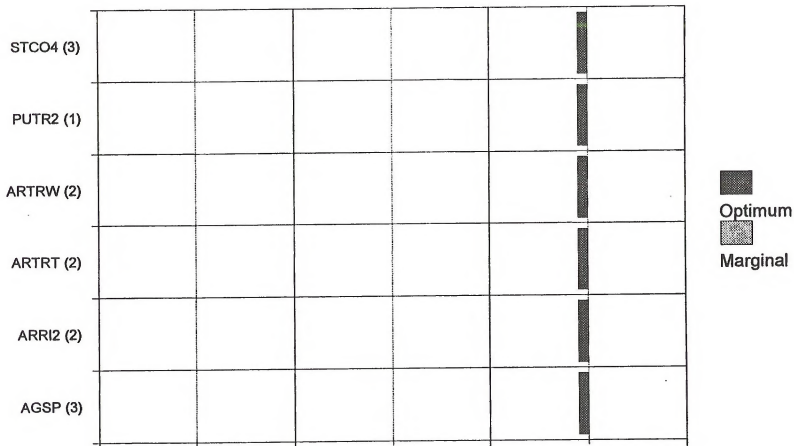
# Precipitation (MLRA B7)



# Frost Free Period (MLRA B7)

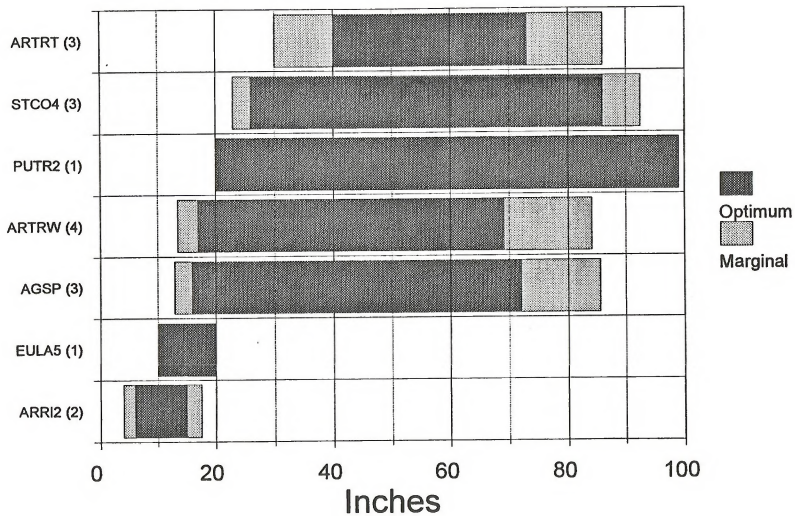


# Soil Temperature Regime (MLRA B7)



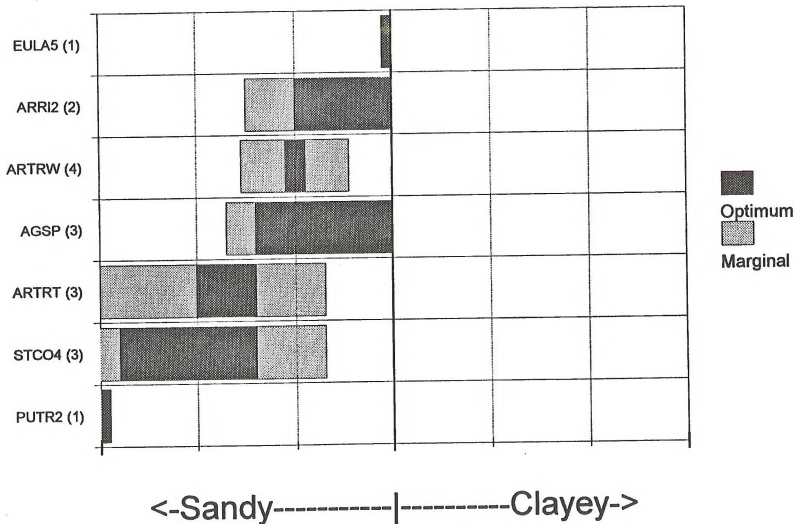
<-Cryic-----Frigid-----Mesic->

# Soil Depth (MLRA B7)

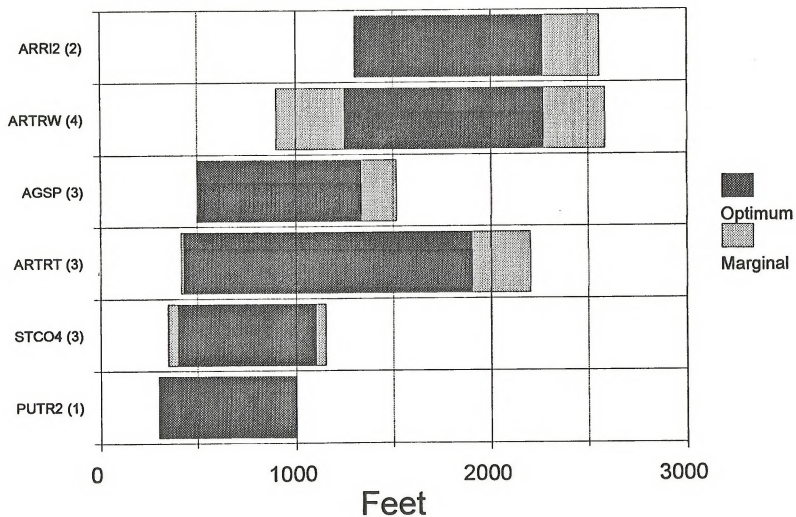




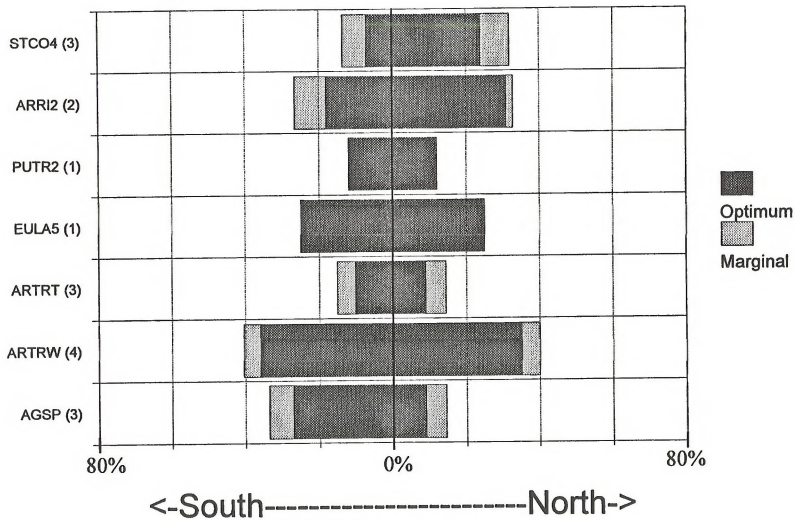
# Soil Texture (MLRA B7)



# Elevation (MLRA B7)

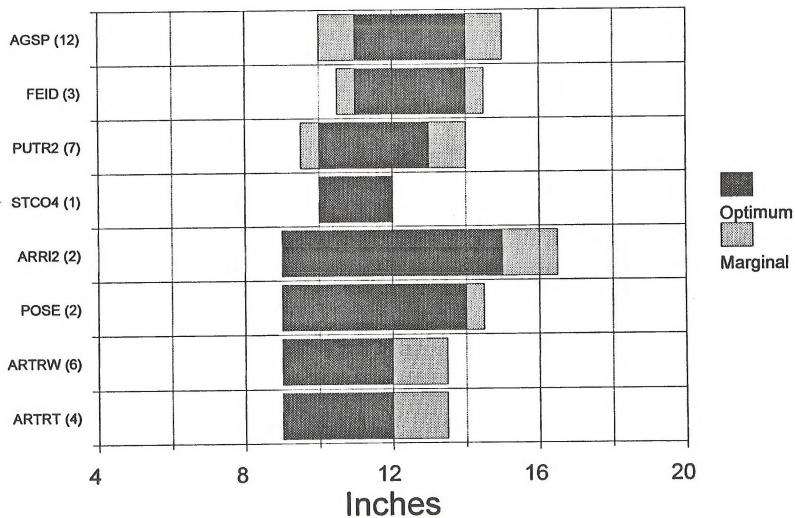


# Slope and Aspect (MLRA B7)

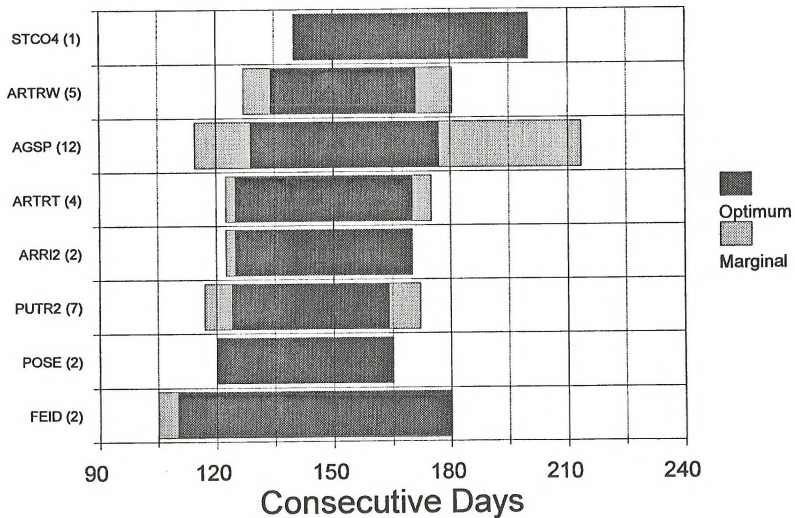




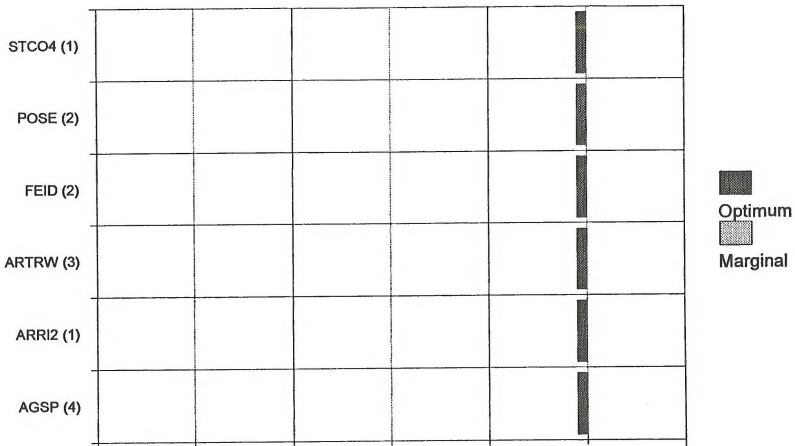
# Precipitation (MLRA B8)



# Frost Free Period (MLRA B8)

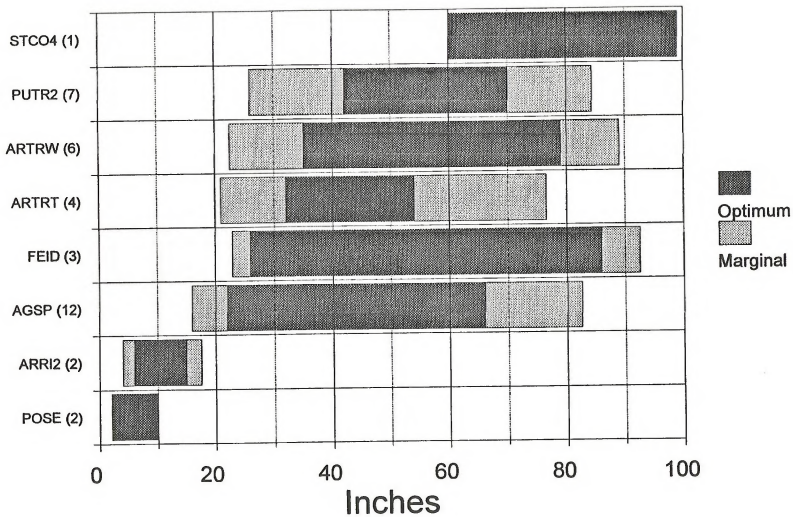


# Soil Temperature Regime (MLRA B8)



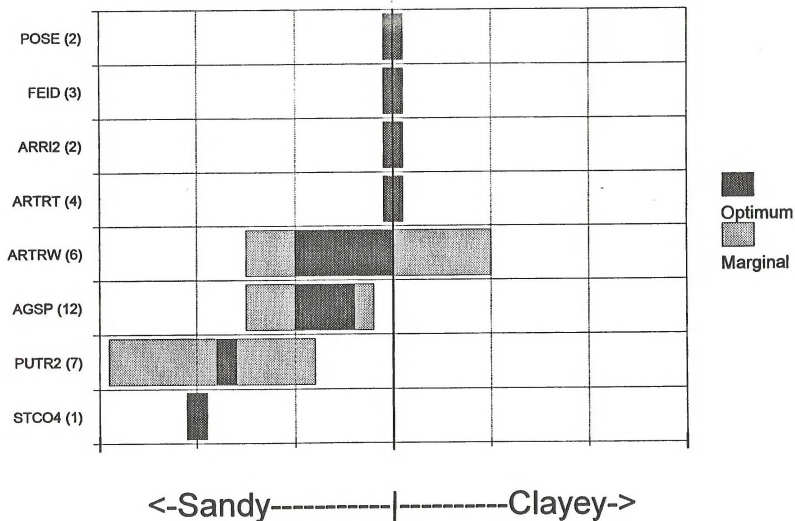
<-Cryic-----Frigid-----Mesic->

# Soil Depth (MLRA B8)

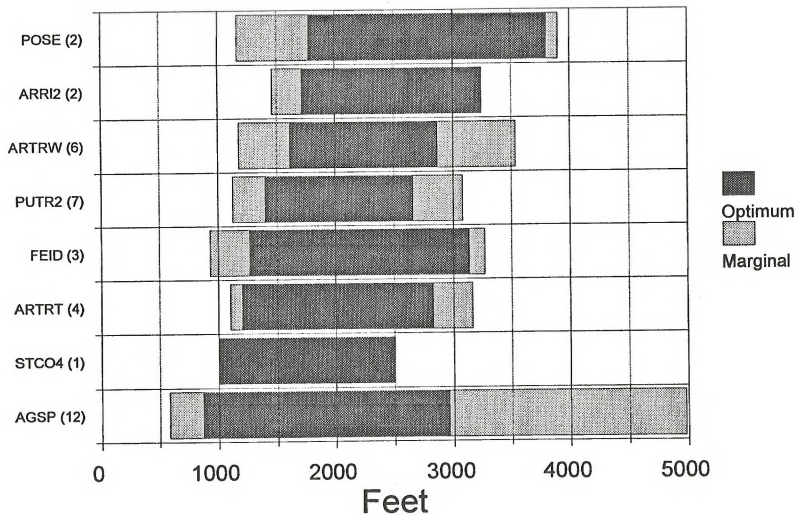




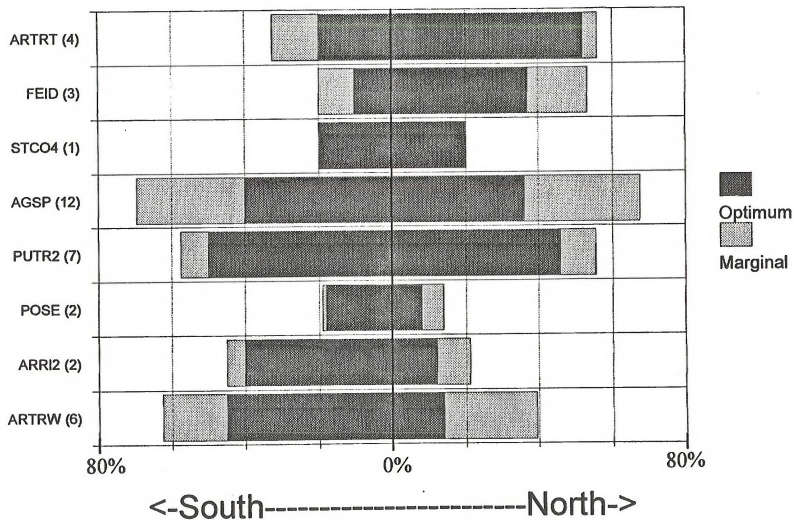
# Soil Texture (MLRA B8)



# Elevation (MLRA B8)

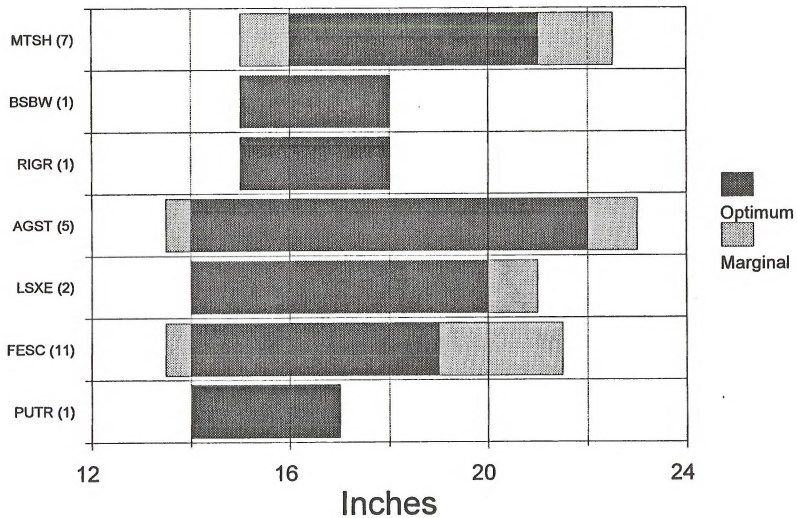


# Slope and Aspect (MLRA B8)

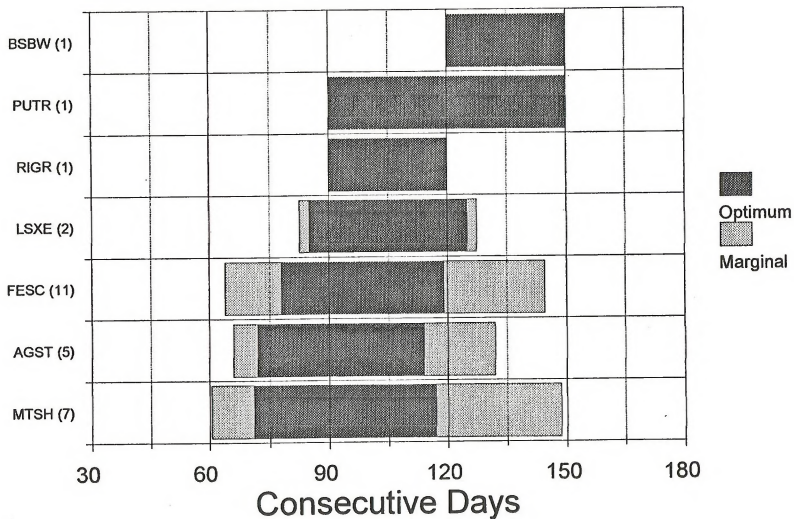




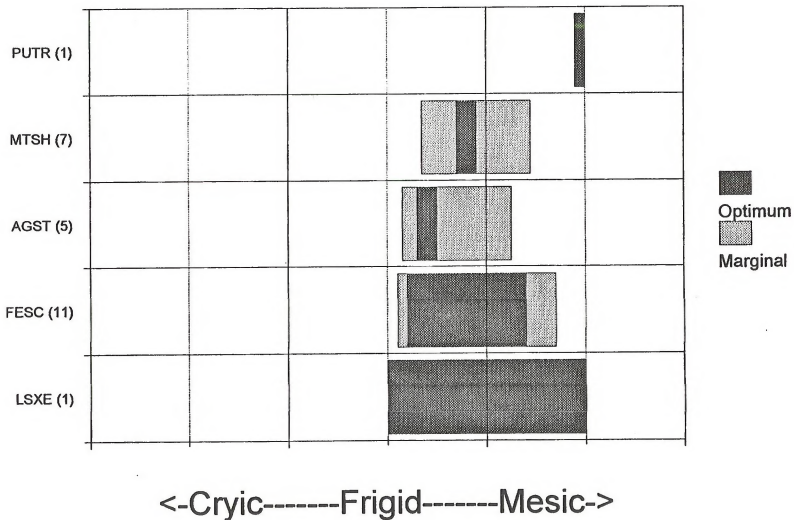
# Precipitation (MLRA B9)



# Frost Free Period (MLRA B9)

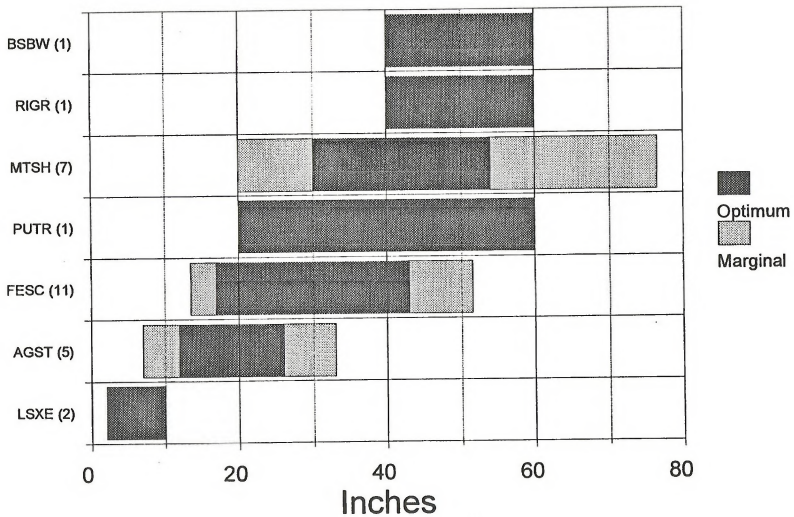


# Soil Temperature Regime (MLRA B9)



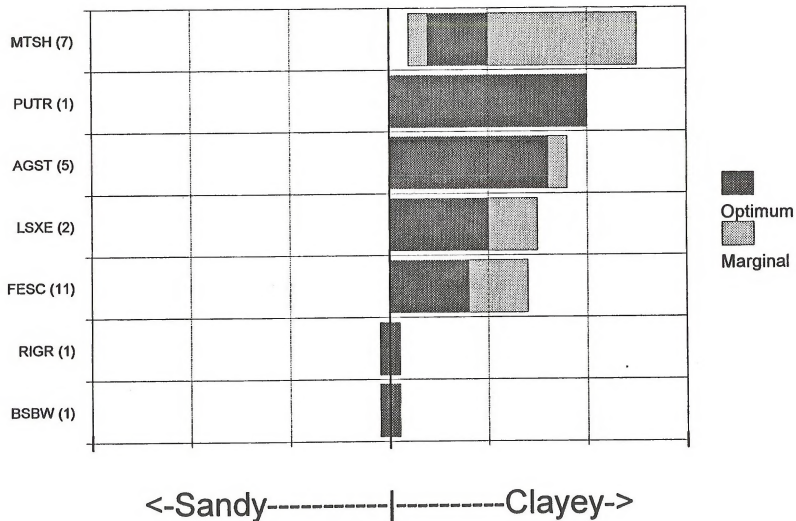
# Soil Depth (MLRA B9)

70

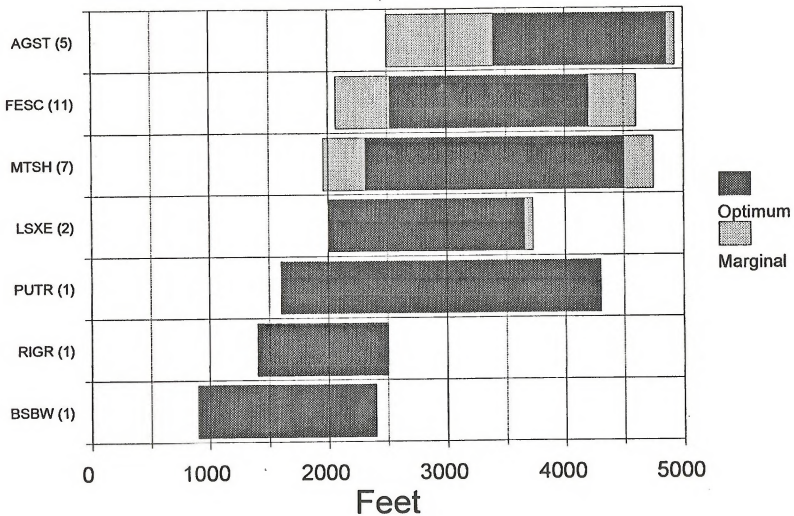




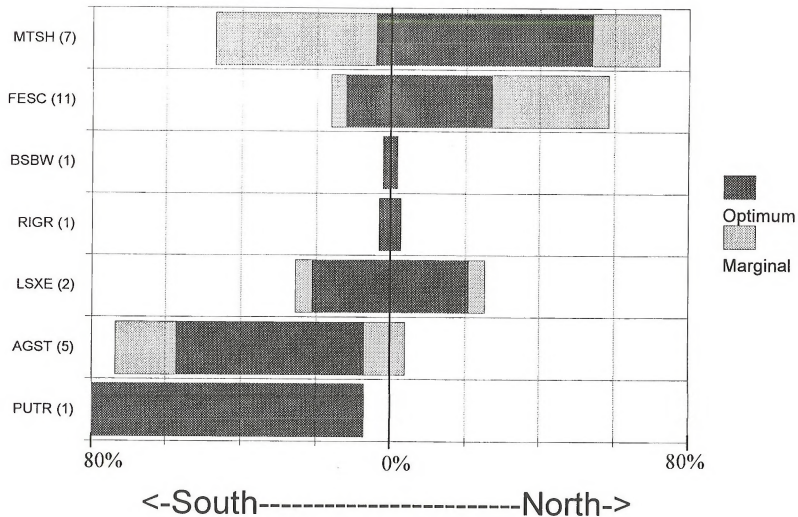
# Soil Texture (MLRA B9)



# Elevation (MLRA B9)

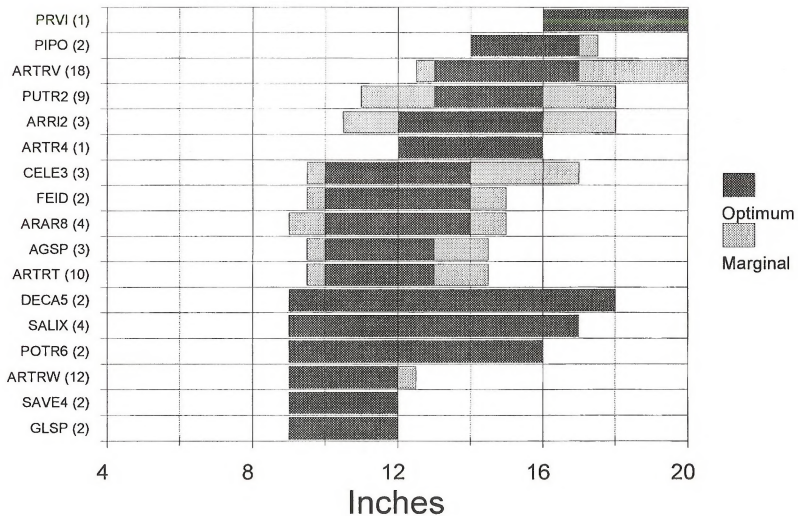


# Slope and Aspect (MLRA B9)

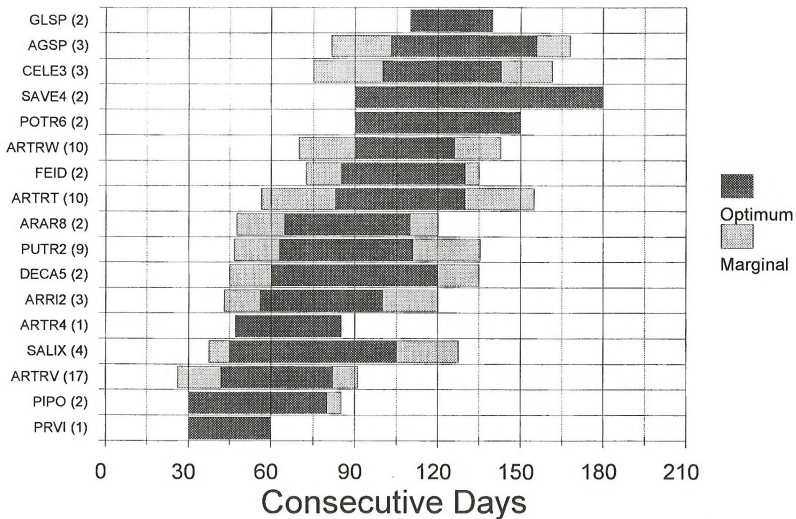




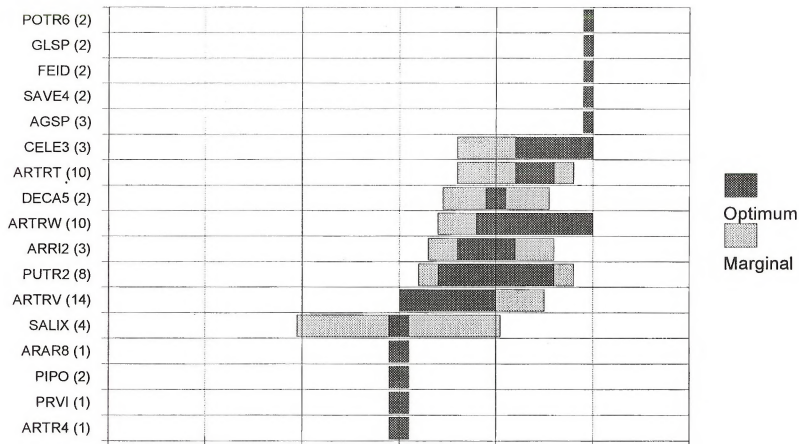
# Precipitation (MLRA B10)



# Frost Free Period (MLRA B10)

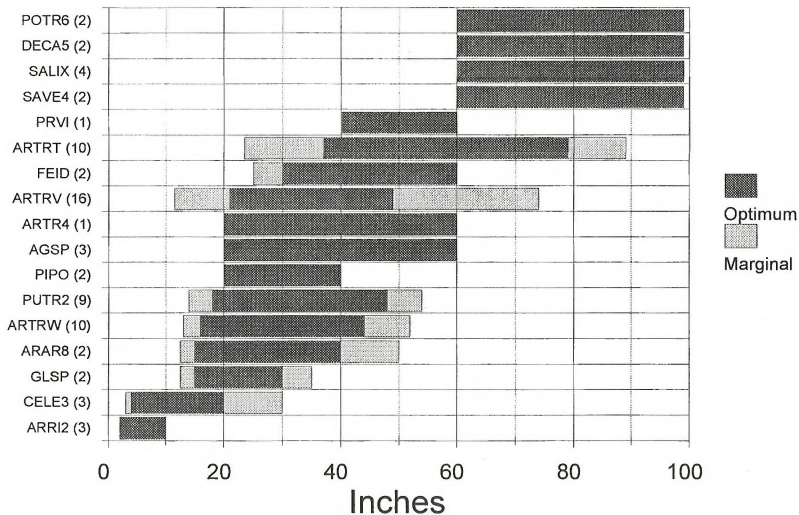


# Soil Temperature Regime (MLRA B10)



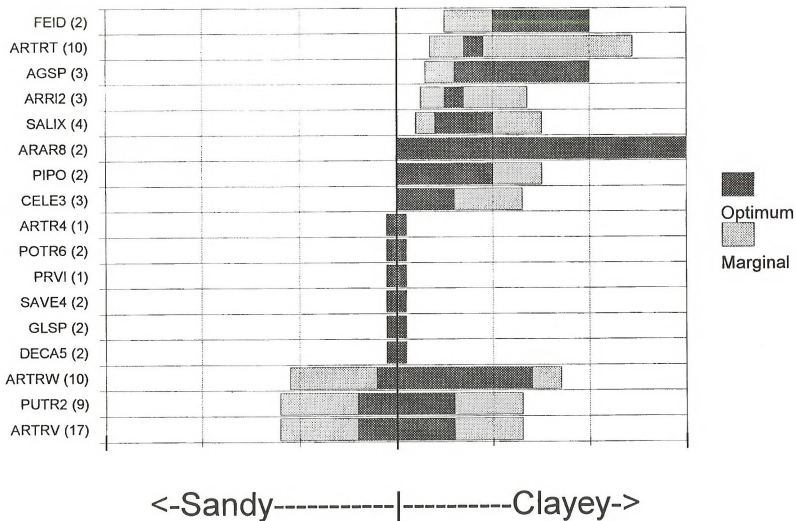
<-Cryic-----Frigid-----Mesic->

# Soil Depth (MLRA B10)

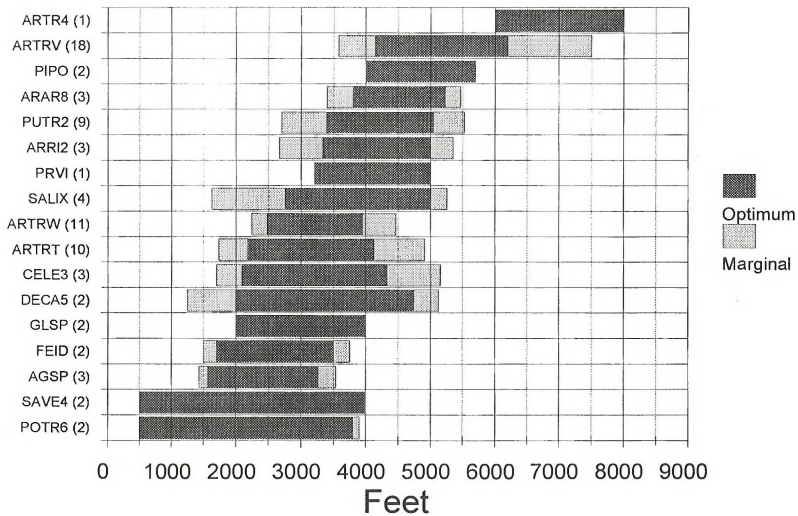




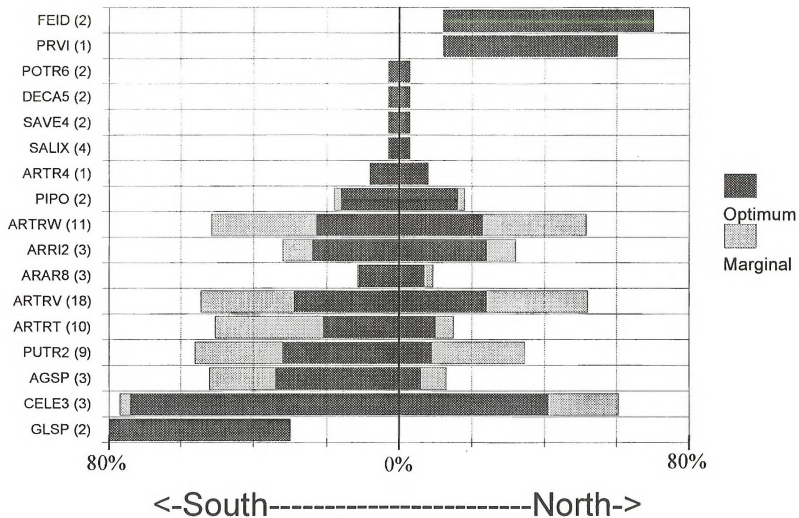
# Soil Texture (MLRA B10)



# Elevation (MLRA B10)

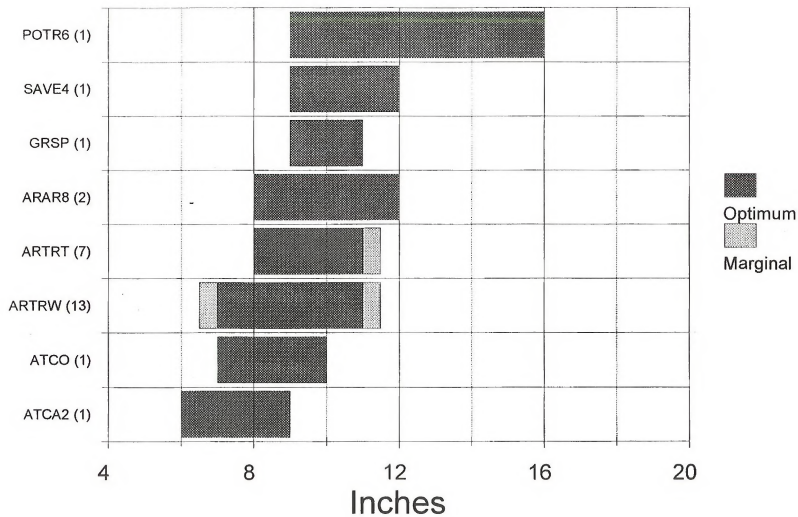


# Slope and Aspect (MLRA B10)

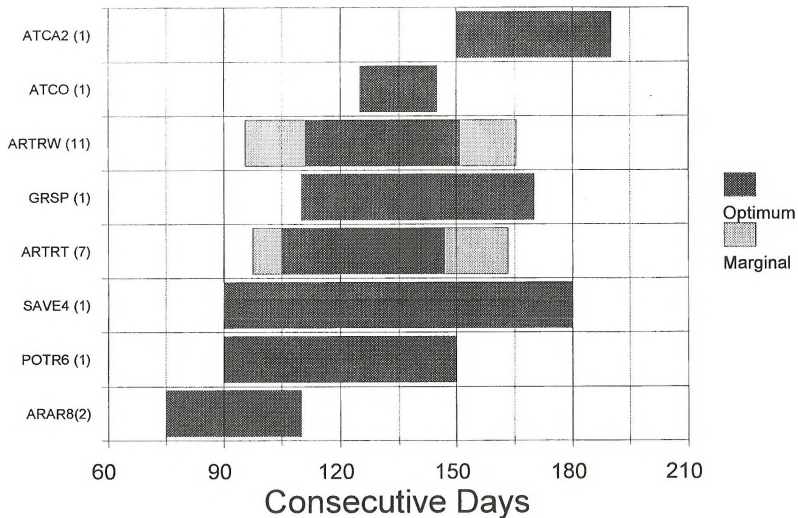




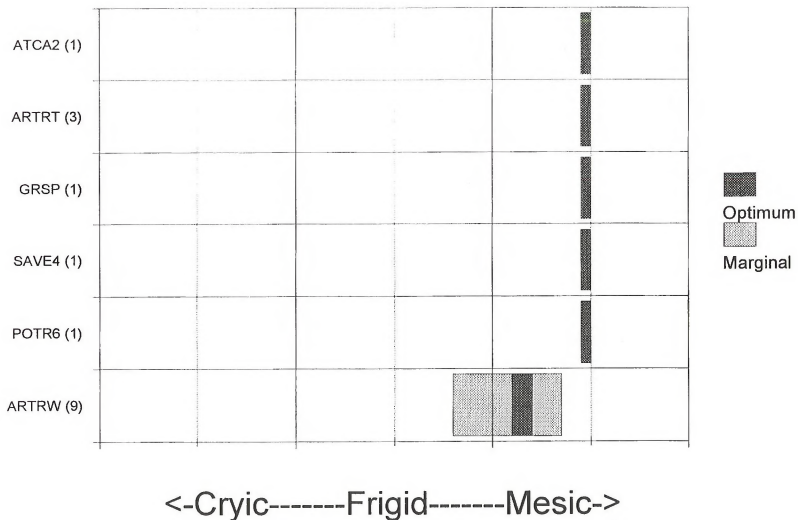
# Precipitation (MLRA B11)



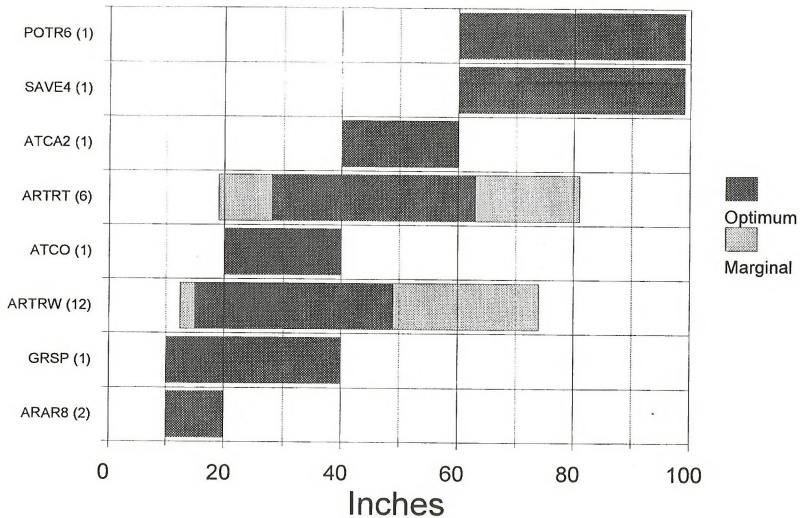
# Frost Free Period (MLRA B11)



# Soil Temperature Regime (MLRA B11)

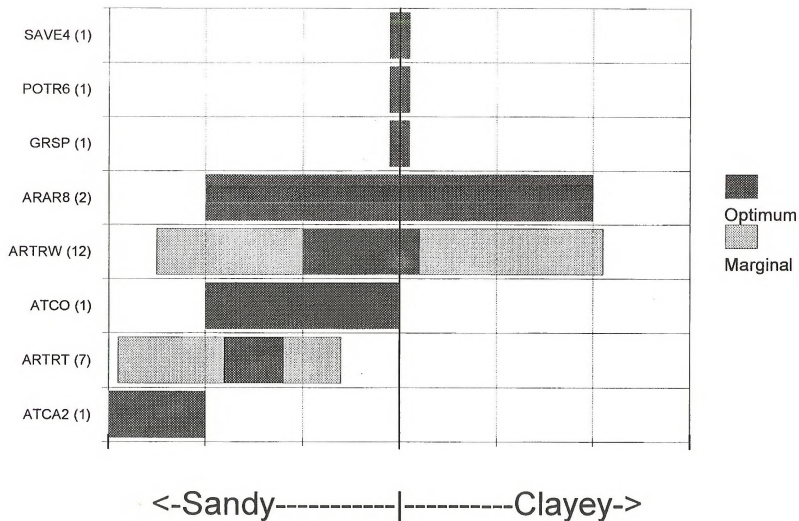


# Soil Depth (MLRA B11)

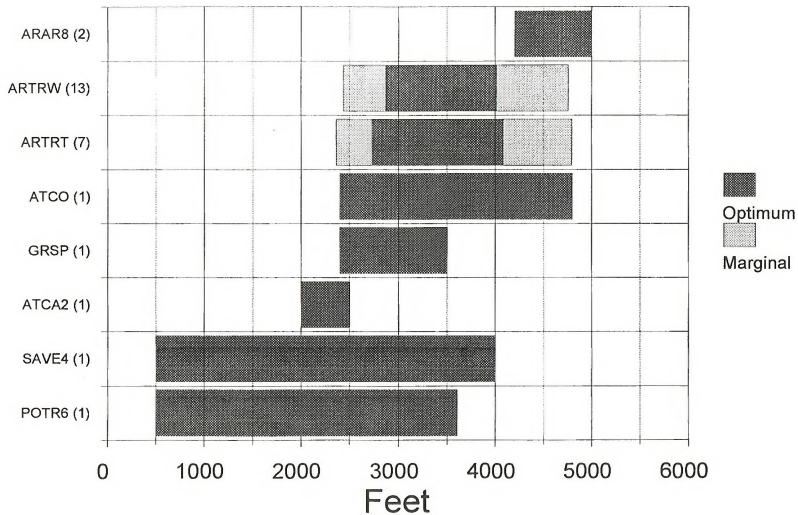




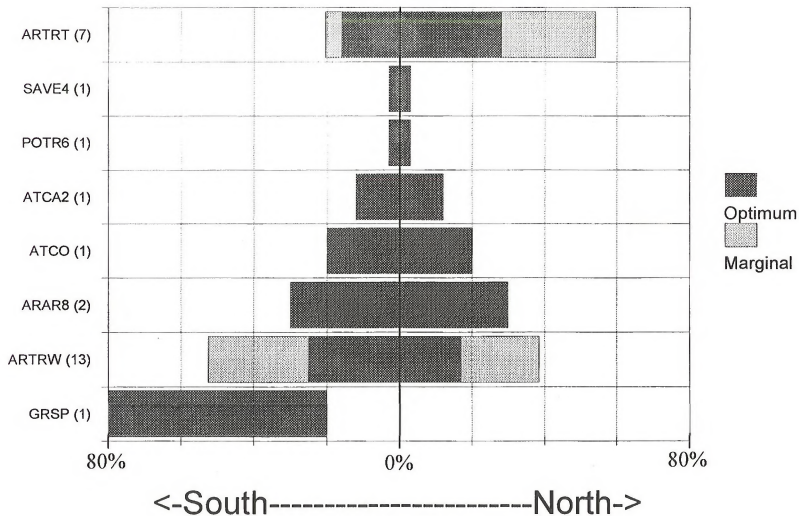
# Soil Texture (MLRA B11)



# Elevation (MLRA B11)

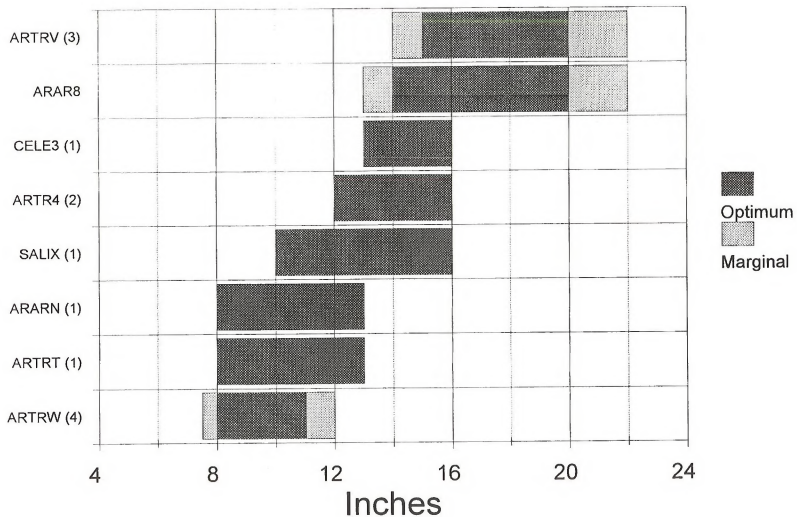


# Slope and Aspect (MLRA B11)



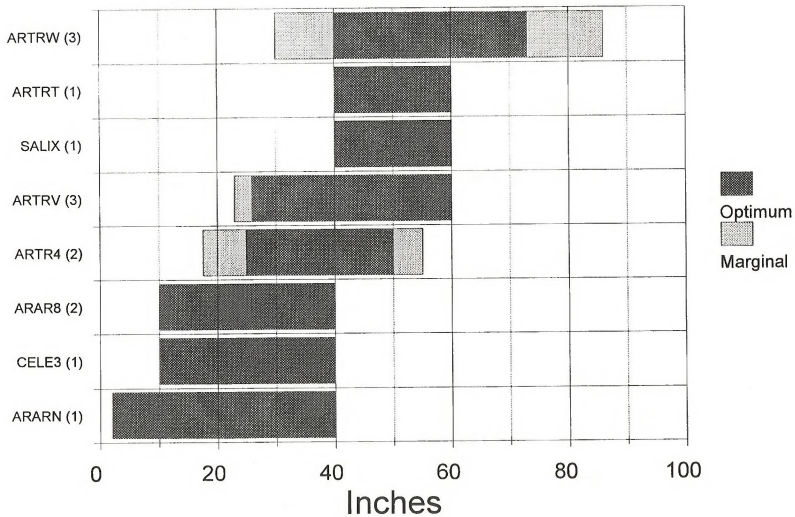


# Precipitation (MLRA B12)

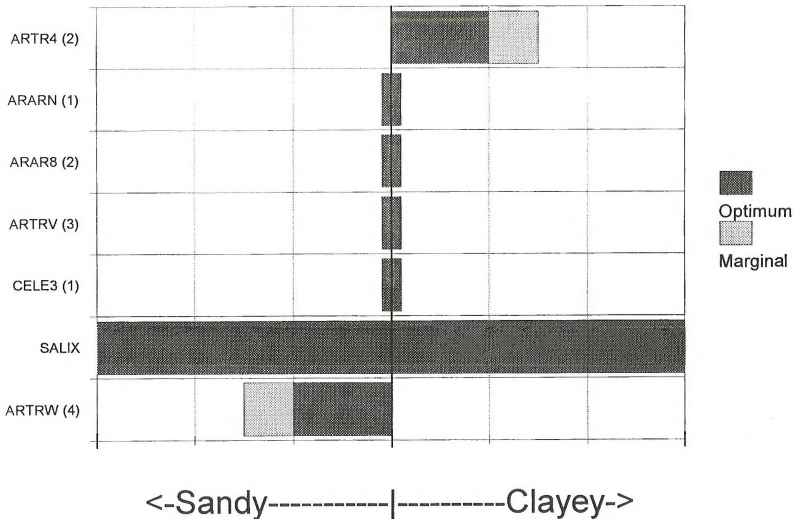


# Soil Depth (MLRA B12)

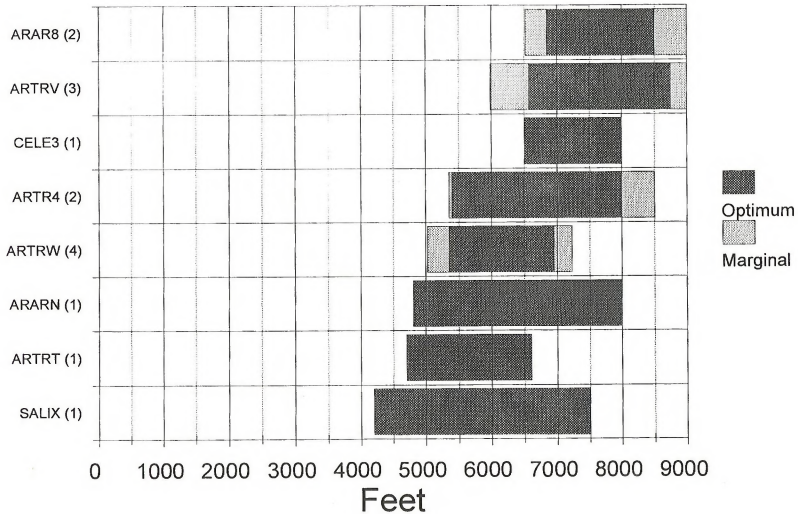
f6



# Soil Texture (MLRA B12)

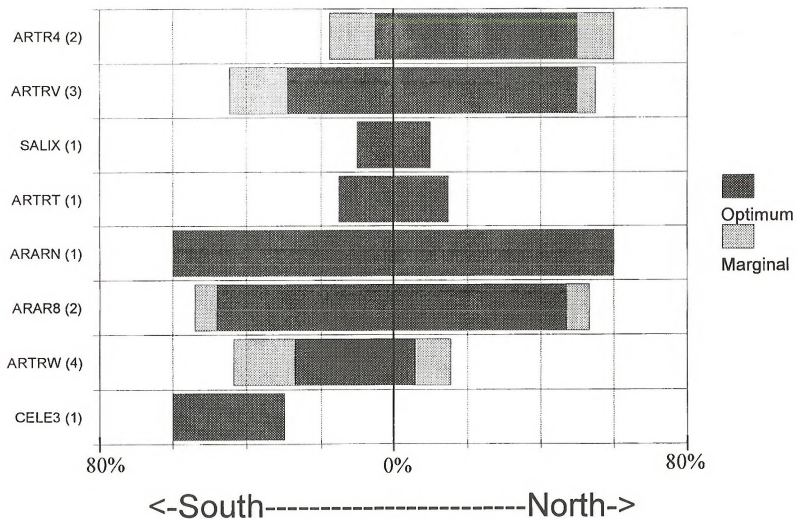


# Elevation (MLRA B12)



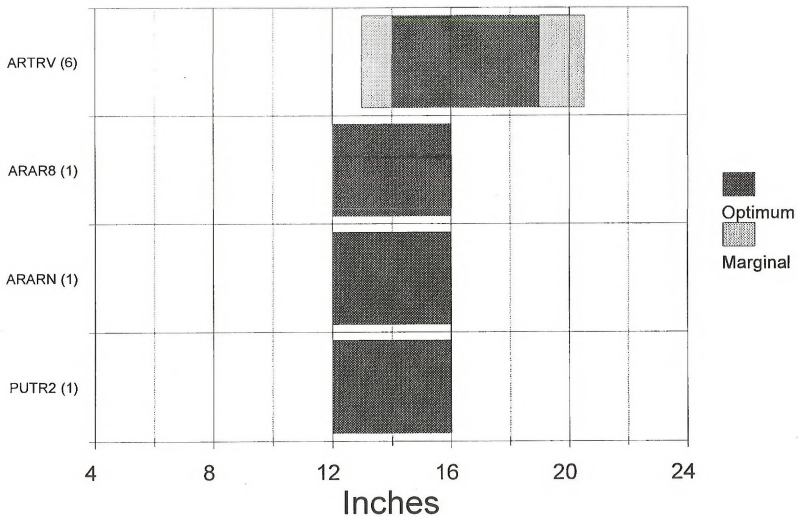


# Slope and Aspect (MLRA B12)

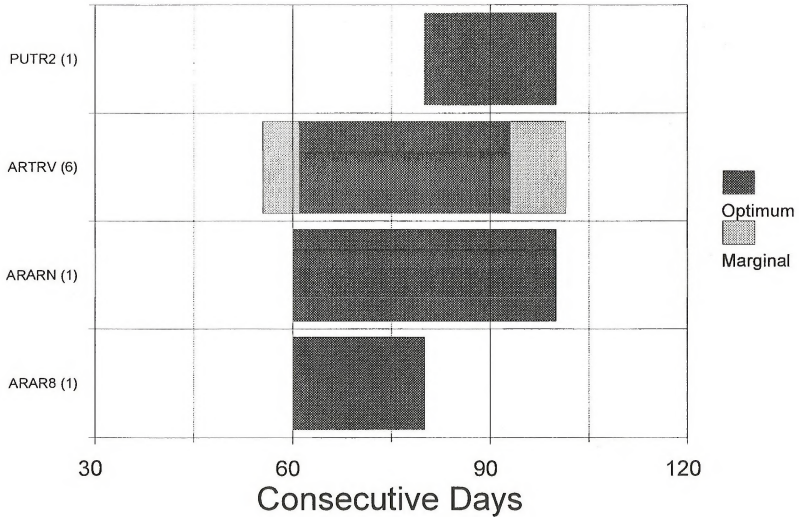




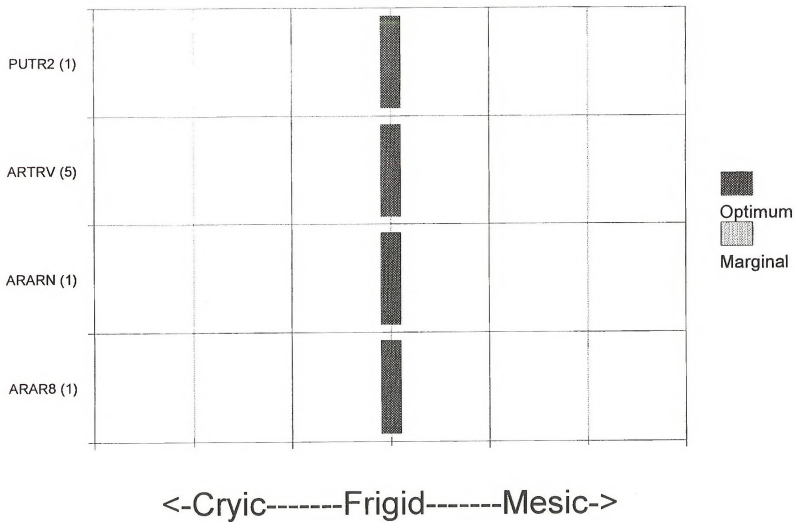
# Precipitation (MLRA B13)



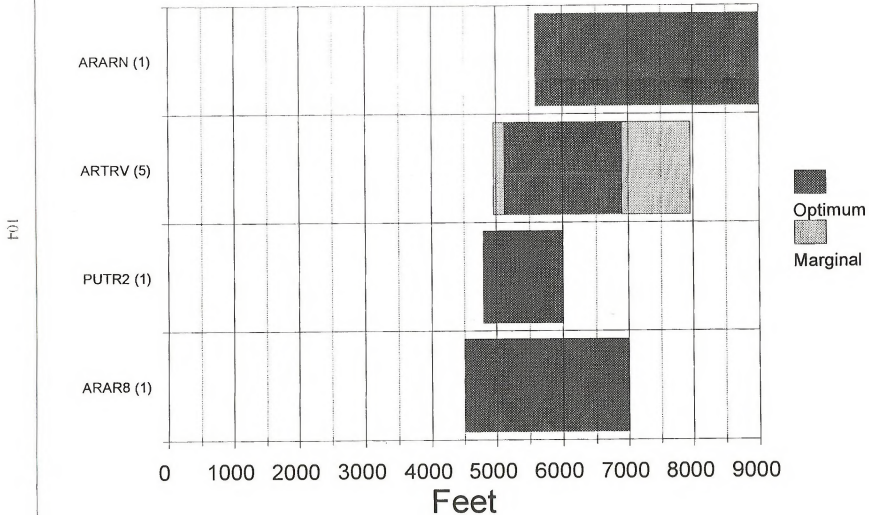
# Frost Free Period (MLRA B13)



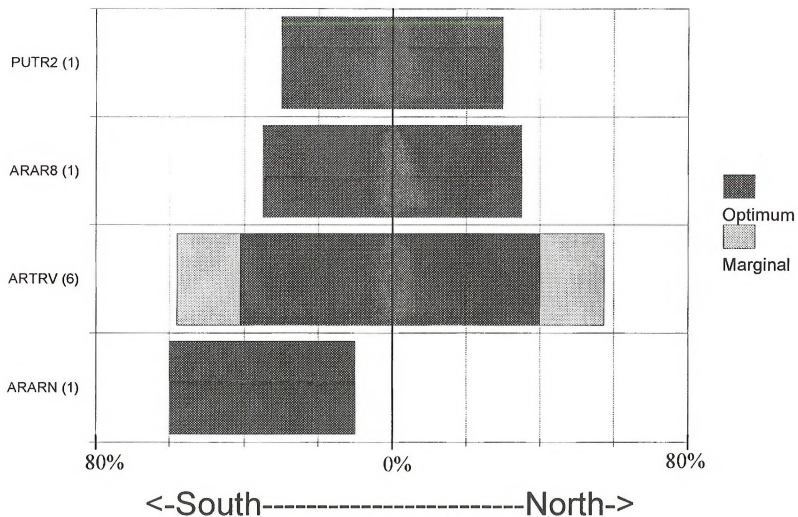
# Soil Temperature Regime (MLRA B13)



# Elevation (MLRA B13)



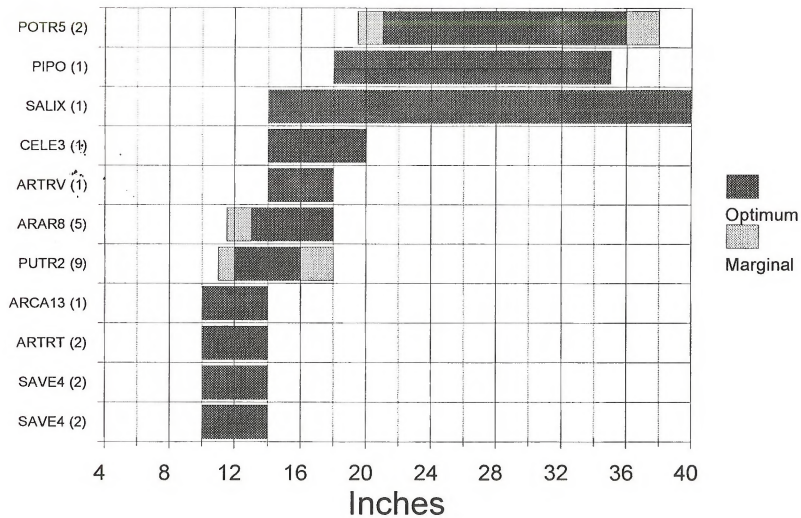
# Slope and Aspect (MLRA B13)



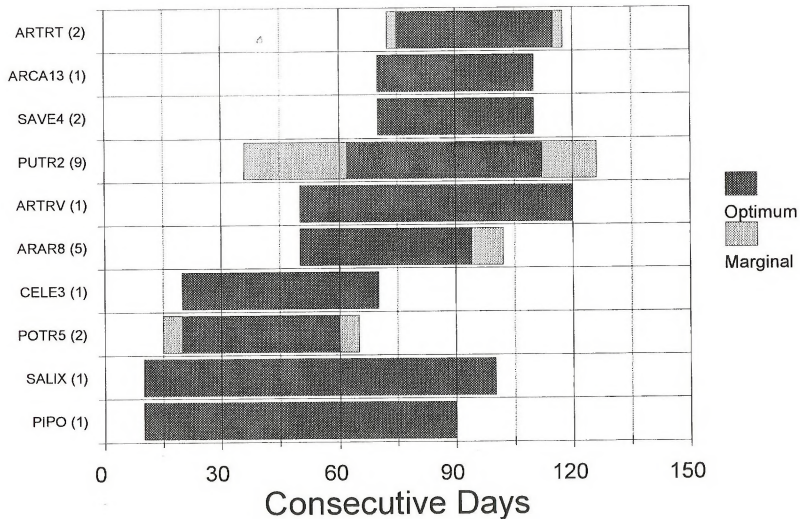




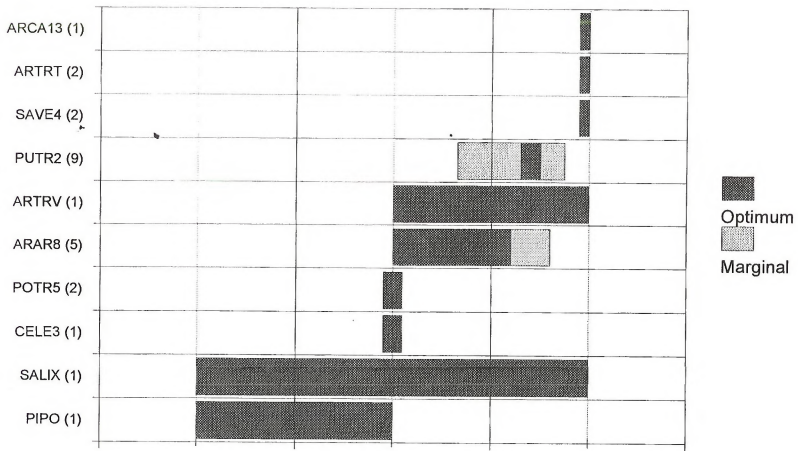
# Precipitation (MLRA D21)



# Frost Free Period (MLRA D21)

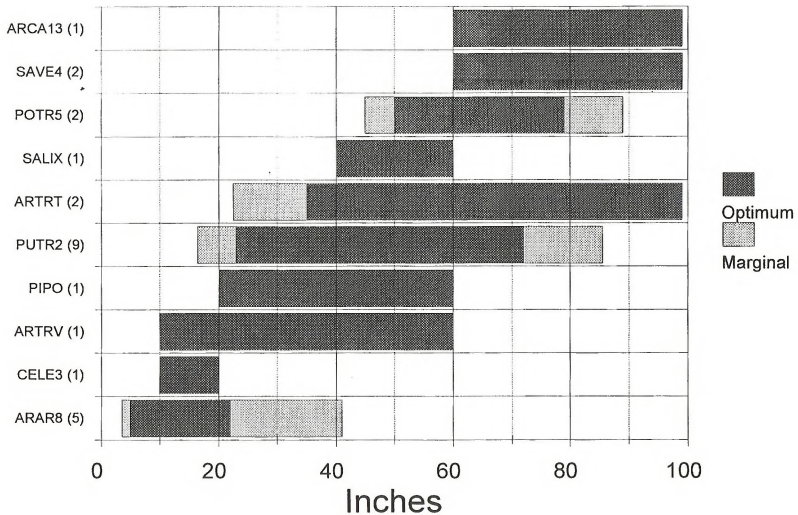


# Soil Temperature Regime (MLRA D21)



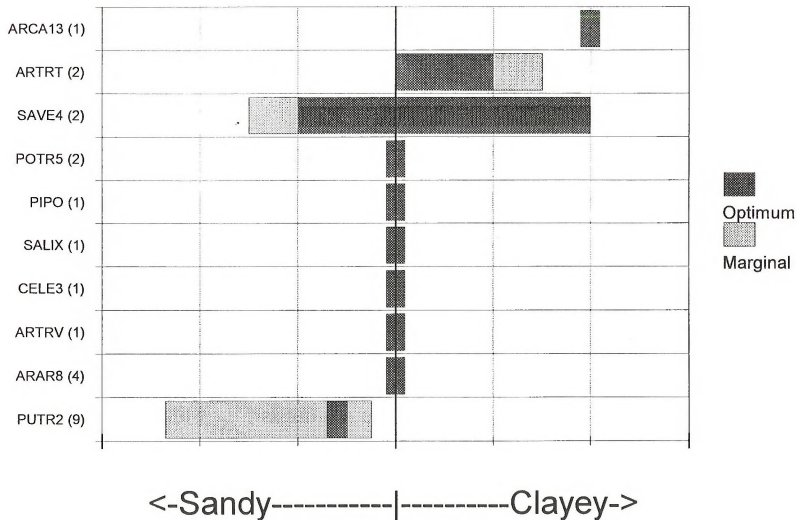
<-Cryic-----Frigid-----Mesic->

# Soil Depth (MLRA D21)

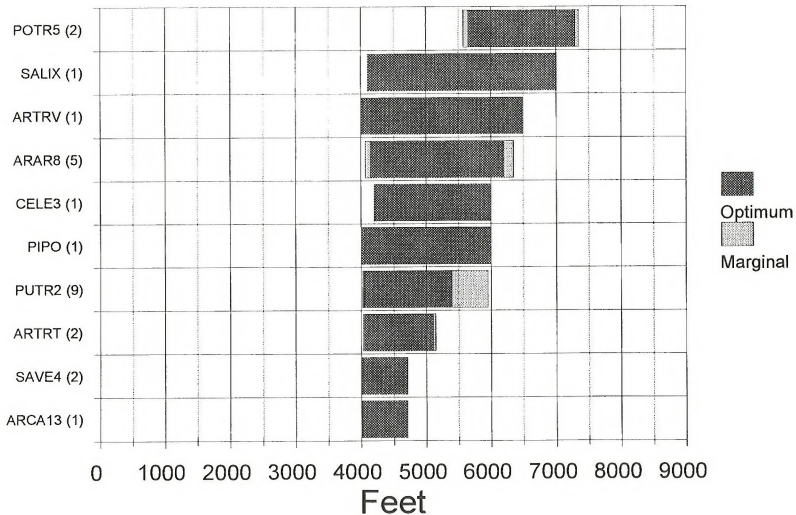


110

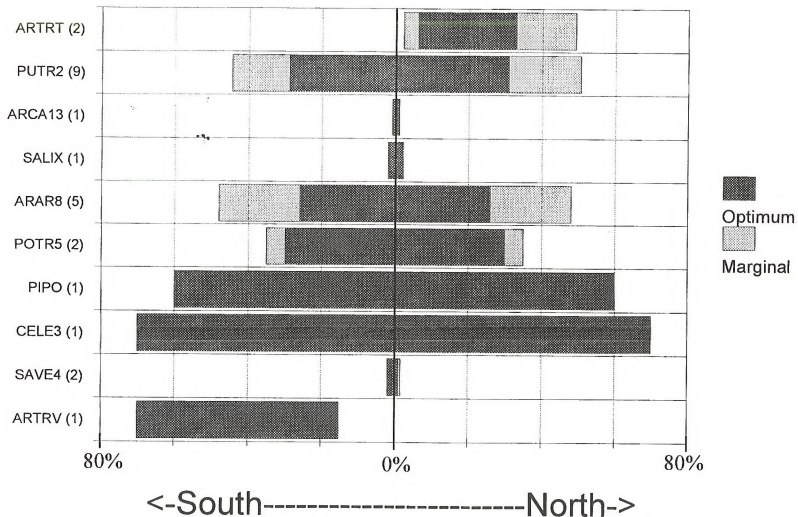
# Soil Texture (MLRA D21)



# Elevation (MLRA D21)



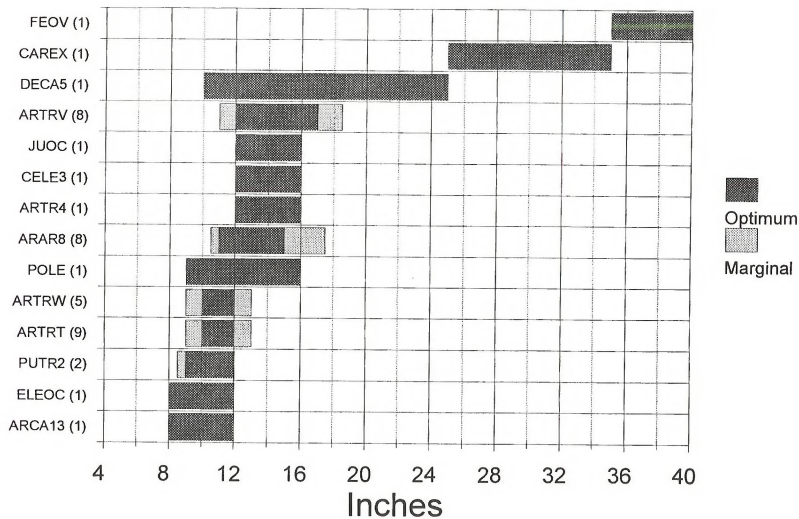
# Slope and Aspect (MLRA D21)



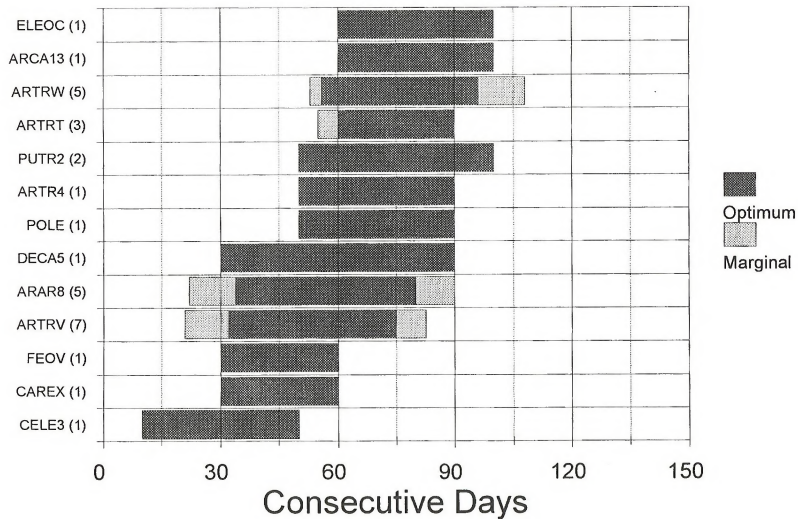




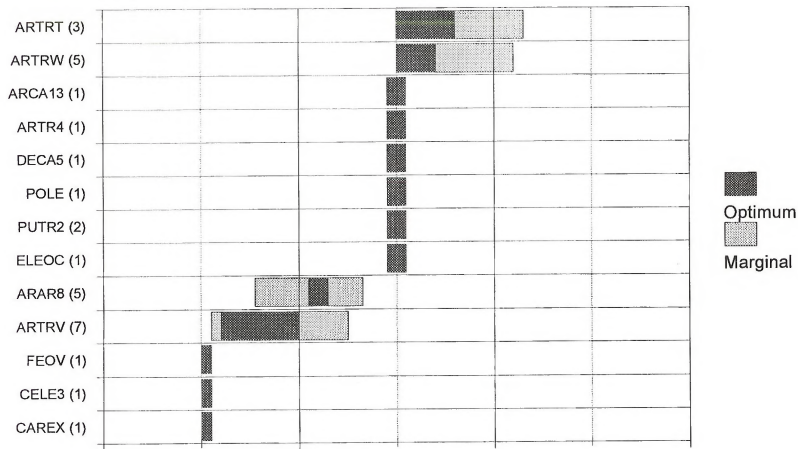
# Precipitation (MLRA D23)



# Frost Free Period (MLRA D23)

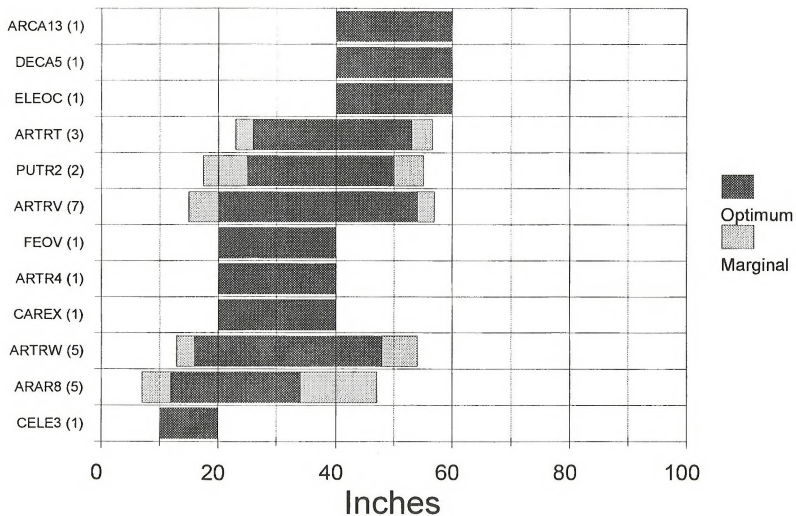


# Soil Temperature Regime (MLRA D23)

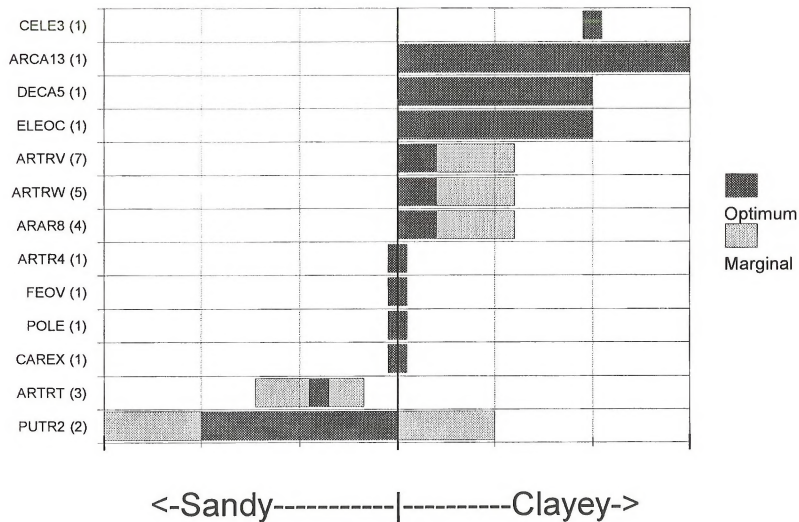


<-Cryic-----Frigid-----Mesic->

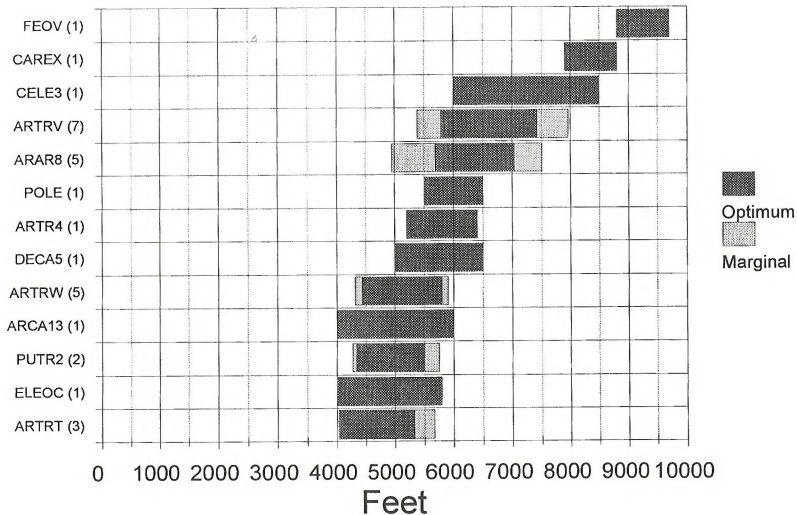
# Soil Depth (MLRA D23)



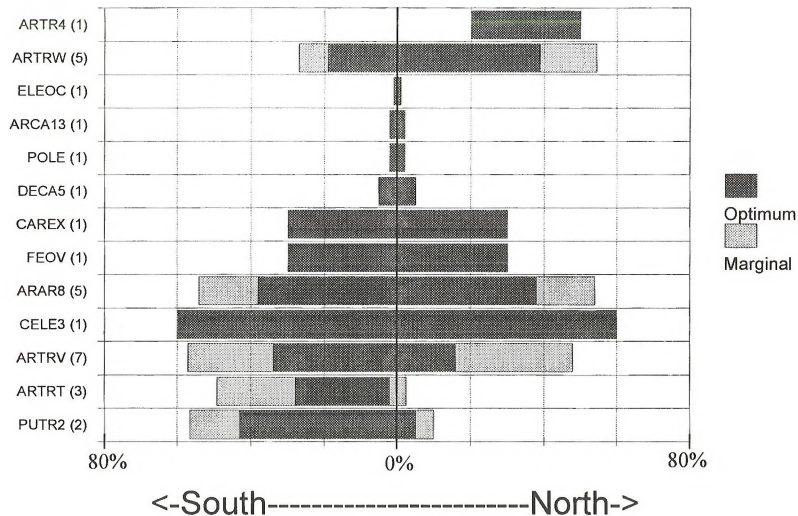
# Soil Texture (MLRA D23)



# Elevation (MLRA D23)



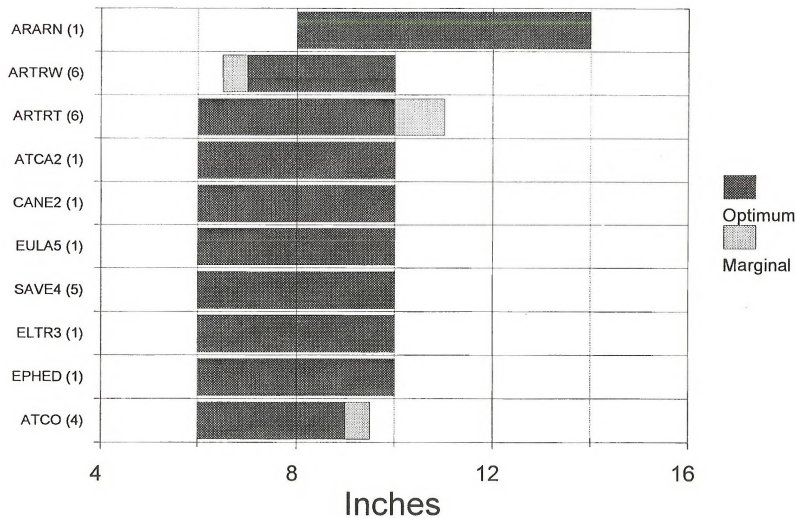
# Slope and Aspect (MLRA D23)



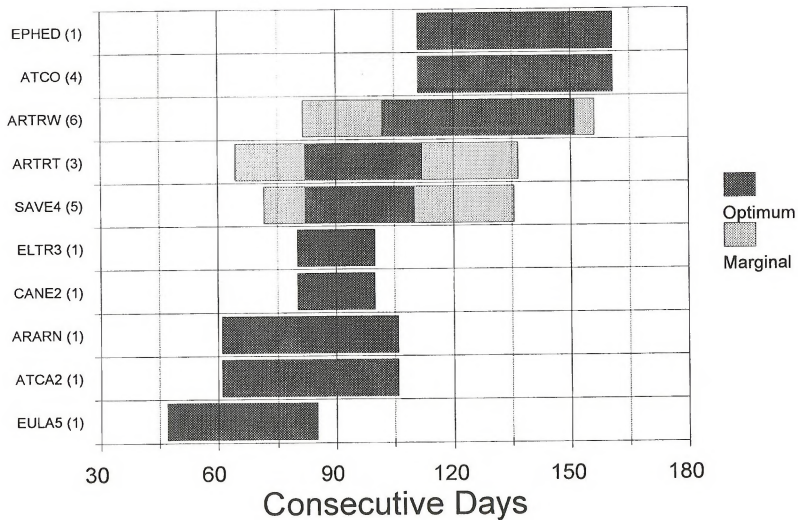




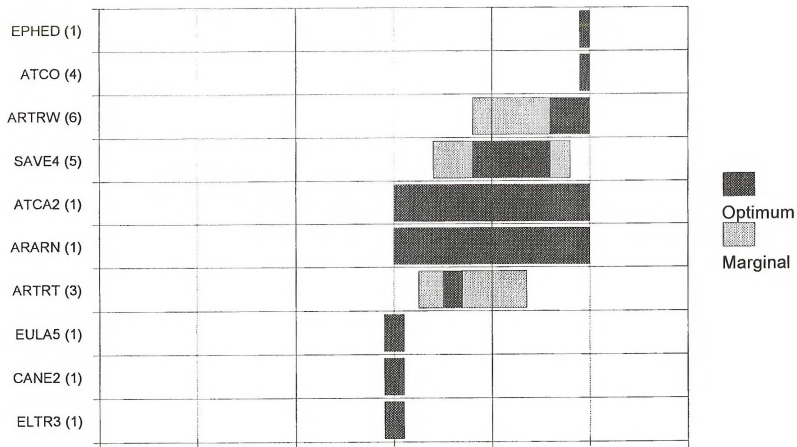
# Precipitation (MLRA D24)



# Frost Free Period (MLRA D24)

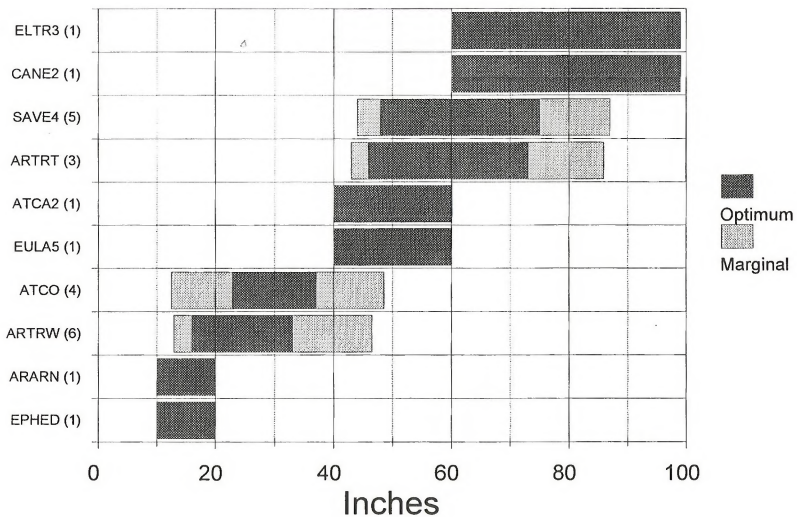


# Soil Temperature Regime (MLRA D24)

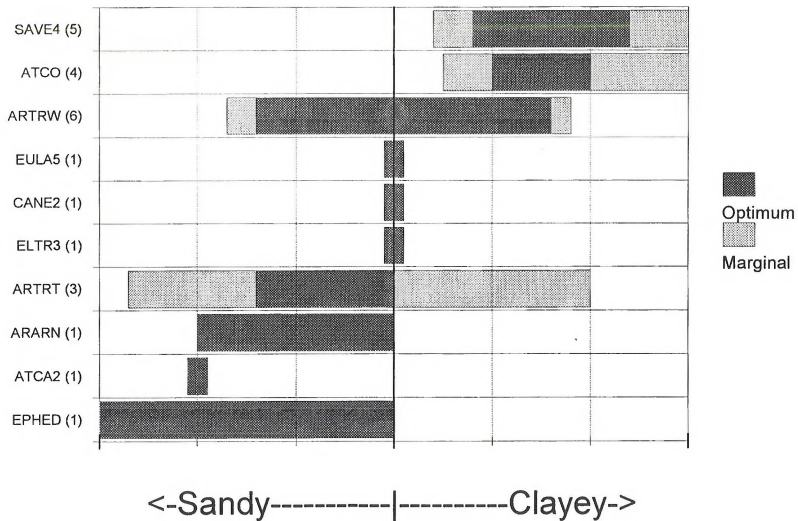


<-Cryic-----Frigid-----Mesic->

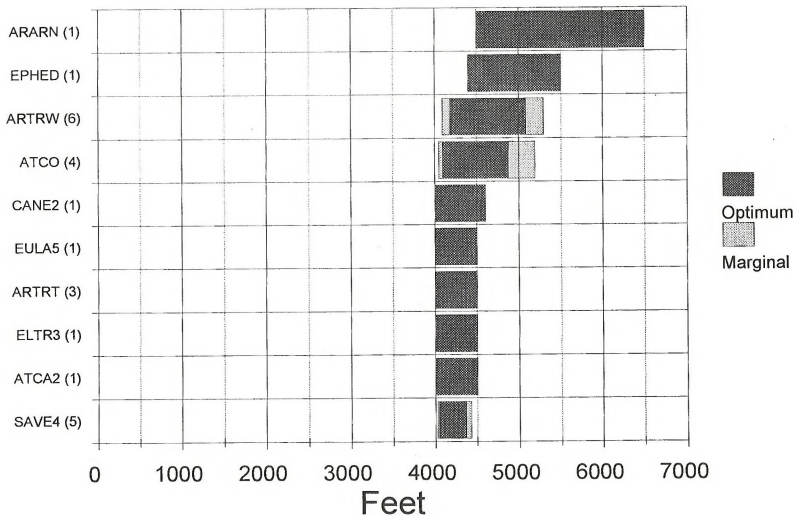
# Soil Depth (MLRA D24)



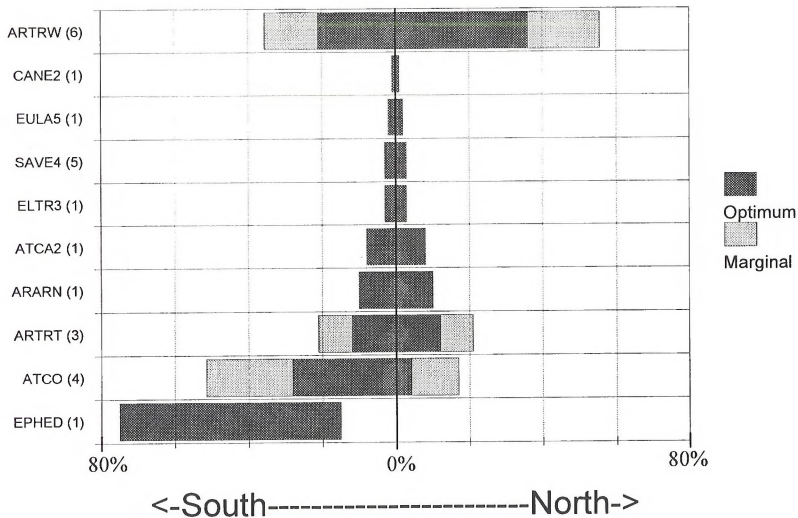
# Soil Texture (MLRA D24)



# Elevation (MLRA D24)



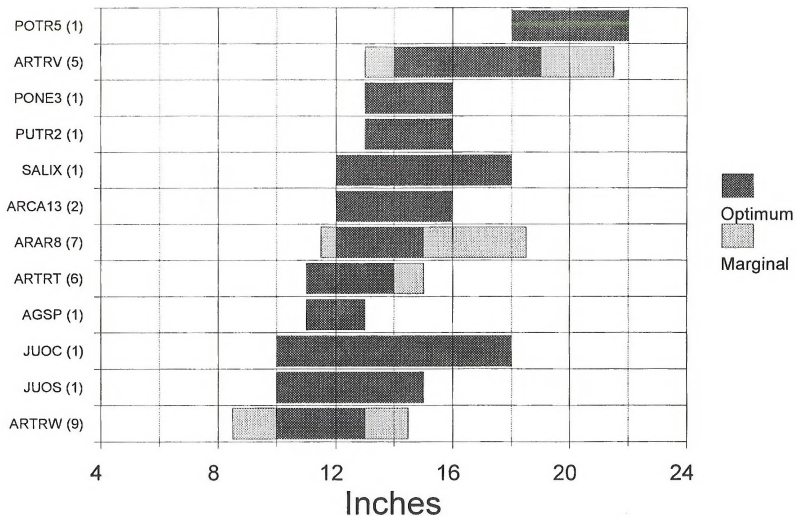
# Slope and Aspect (MLRA D24)



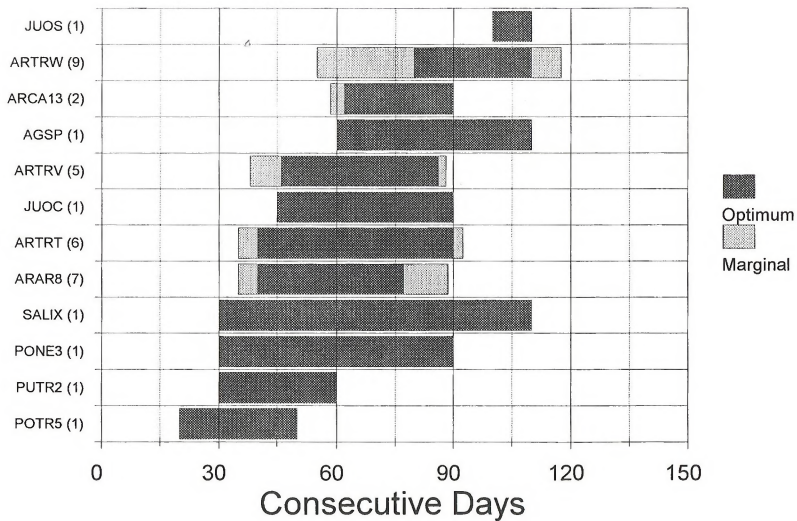




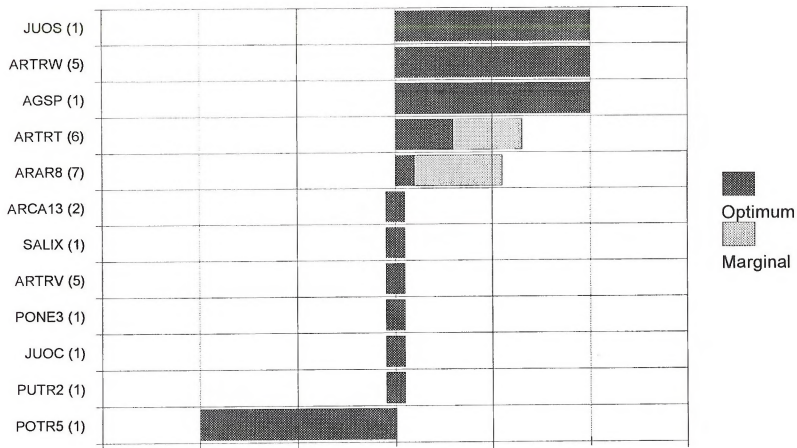
# Precipitation (MLRA D25)



# Frost Free Period (MLRA D25)

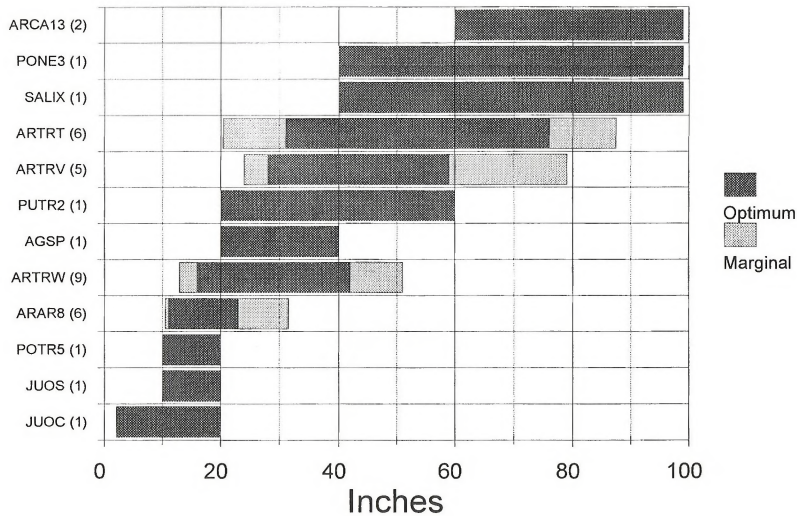


# Soil Temperature Regime (MLRA D25)

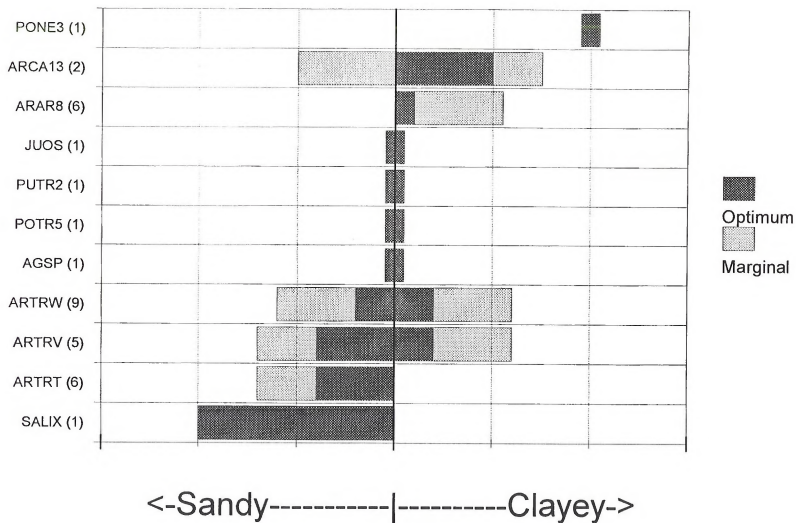


<-Cryic-----Frigid-----Mesic->

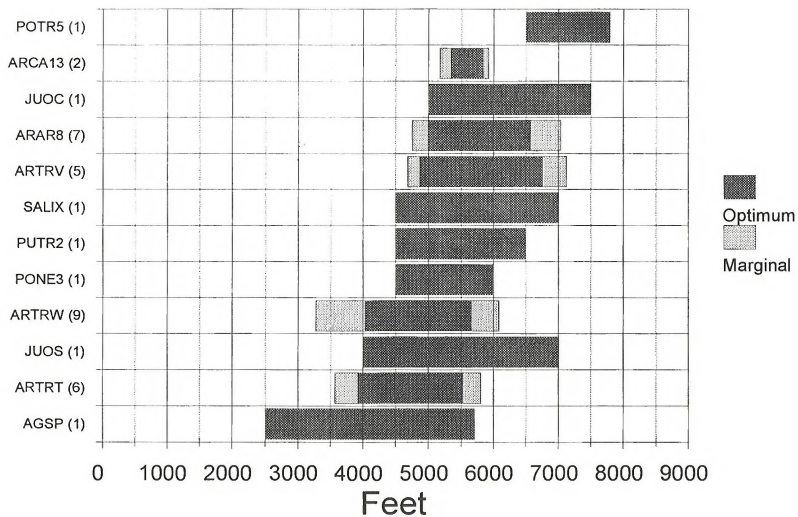
# Soil Depth (MLRA D25)



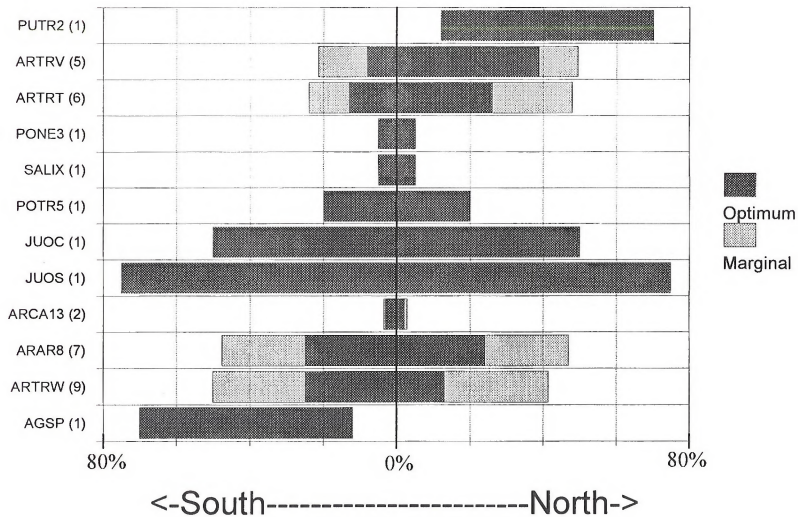
# Soil Texture (MLRA D25)



# Elevation (MLRA D25)



# Slope and Aspect (MLRA D25)



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