

Colorado
State
University

Extension

The logo for Colorado State University Extension is located in the top right corner. It features the text "Colorado State University" in a serif font, with "Colorado" and "State" stacked and "University" below them. Below this, the word "Extension" is written in a larger, stylized serif font with a horizontal line underneath. The entire logo is set against a semi-transparent white background.

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The title "Water Wise Landscape Design" is centered in the lower half of the image. It is written in a large, bold, yellow sans-serif font. The background of the slide is a photograph of a lush garden with green foliage, purple flowers, and a tall evergreen tree on the left, with mountains in the distance.

Water Wise Landscape Design

www.cmg.colostate.edu

Water Wise Landscape Design

CMG GardenNotes #411-413



Design ≠ Gardening



7 Principles of Water-Wise Landscaping





Planning and designing for water conservation, beauty, and utility



Hydrozoning

Selecting plant appropriate for our climate...

Grouping them according to water need...

Watering according to need



**Watering efficiently with
appropriate irrigation methods**

A vibrant garden scene featuring a well-maintained lawn, a wooden arched bench, and various plants including red flowers, white daisies, and large green foliage. A text overlay is present in the lower center.

**Creating practical turf
and non-turf areas**

Improving the soil



Mulching to reduce evaporation



A photograph of a garden scene. In the foreground, a large bush of light pink flowers is in full bloom. Behind it, a statue of a man in classical attire stands on a pedestal. To the left, there are red roses and a black metal fence. In the background, a house with a stone wall and a white door is visible. The text "Maintaining with good horticultural practices" is overlaid in the lower right.

**Maintaining with good
horticultural practices**

7 Principles of Water-Wise Landscaping

- **Planning...**
- **Hydrozoning...**
- **Watering efficiently..**
- **Practical turf...**
- **Improving soil**
- **Mulching**
- **Maintaining...**



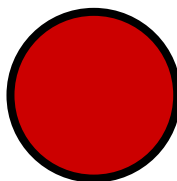
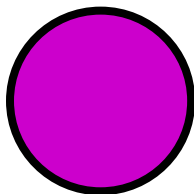
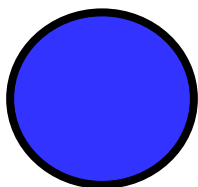
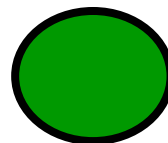
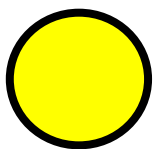


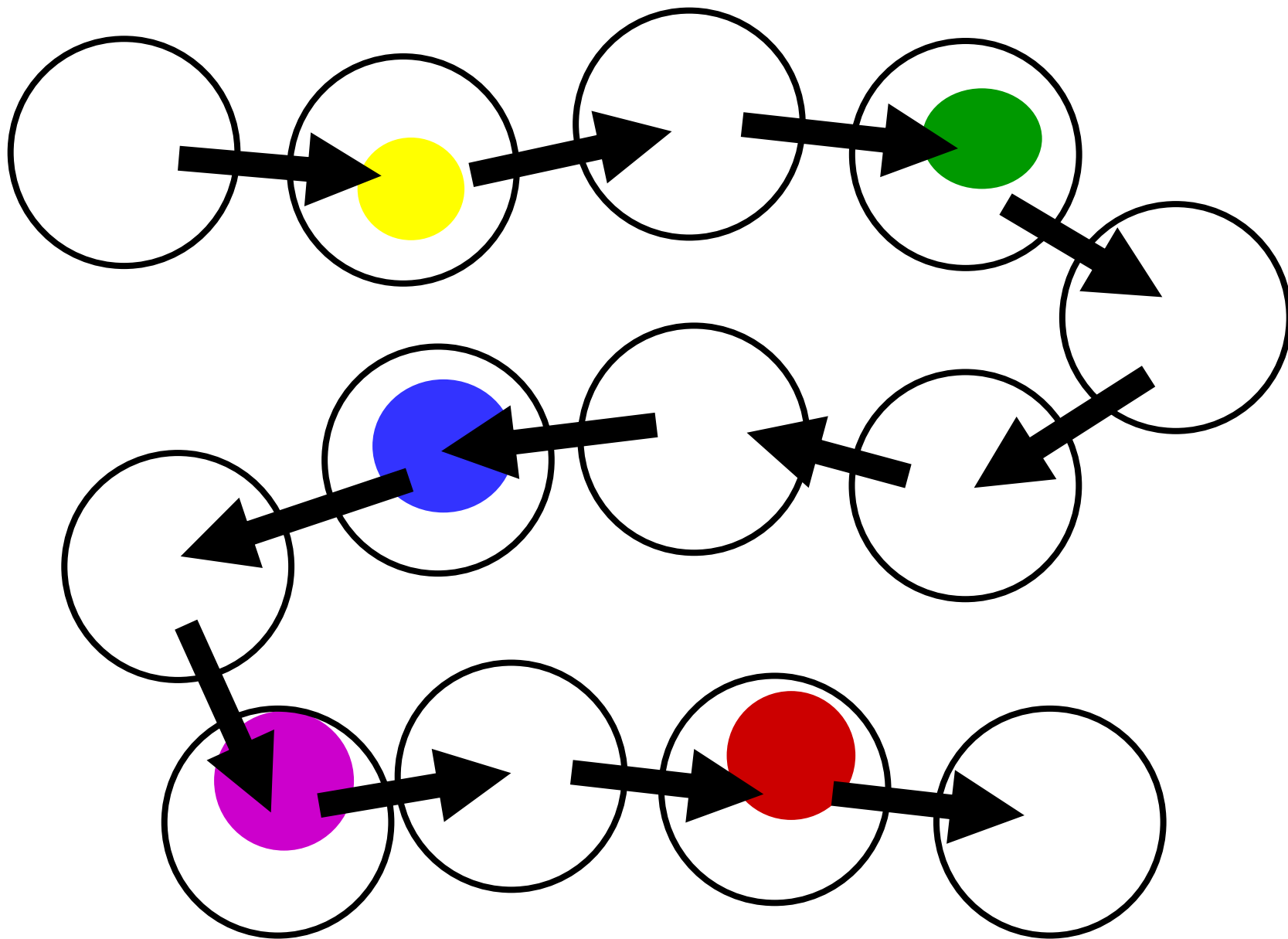
Planning and designing for water conservation, beauty, and utility

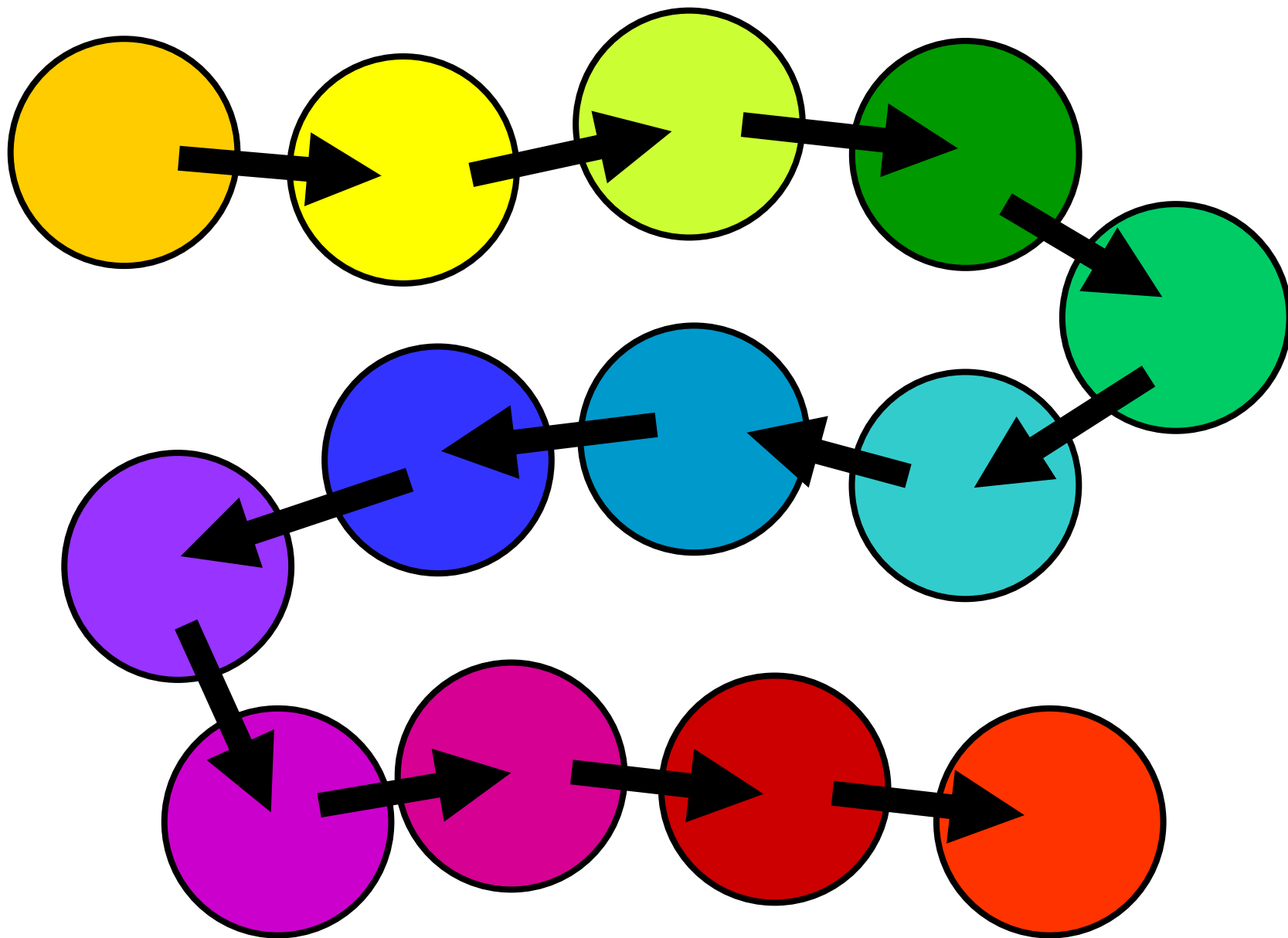


A process

More than plunking down some plants







Creating practical and pleasing outdoor space





**What do you want and need
from the landscape?**



















Colorado's High Plains Prairie



Investment in time and dollars

A process

More than plunking down some plants



A black pop-up sprinkler head is shown in the lower right, spraying water in several directions. The water jets are visible against the green foliage. The garden includes various plants, including some with red flowers. The background is filled with more greenery.

**Watering efficiently with
appropriate irrigation methods**

A scenic landscape featuring a wide river in the foreground, a large dam or bridge structure in the middle ground, and rolling hills and mountains in the background under a blue sky with scattered clouds. The text is overlaid on the right side of the image.

On a community wide basis
**Apply twice the amount of water
needed by landscape plants**

Due to poor irrigation system

- ✓ **Design**
- ✓ **Maintenance**
- ✓ **Management**

Watering efficiently

**Irrigation
efficiency has
greatest
water savings
potential for
most home
gardeners.**



Drip irrigation

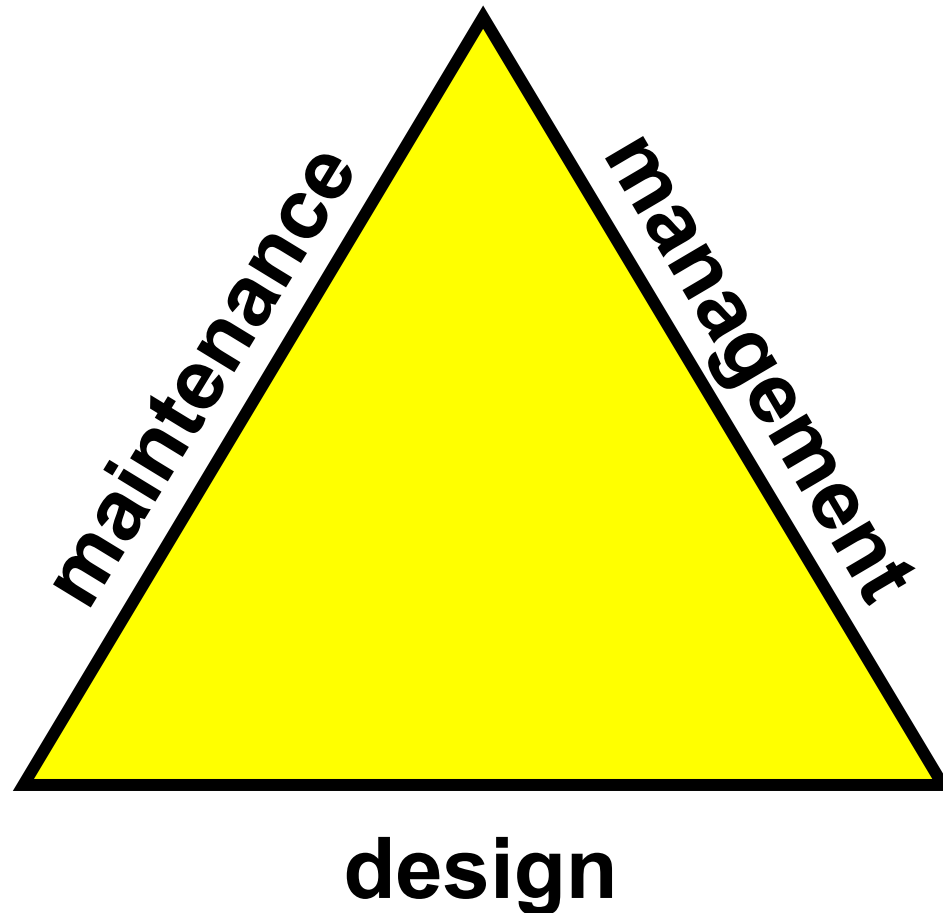
with mulch reduces water use by 50%.

- Flower & shrub beds
- Vegetables
- Small fruits



Sprinkler Design Criteria

for Uniform Water Distribution





Hydrozoning

Selecting plant appropriate for our climate...

Grouping them according to water need...

Watering according to need

Hydrozoning

**Grouping plants according to water need
AND
Irrigating according to need**



routine
irrigation



reduced
irrigation



limited
irrigation



non
irrigated

Hydrozones

- **Lawn areas**
 - ✓ Routine irrigation
 - ✓ Reduced irrigation
 - ✓ Minimal irrigation



Hydrozones

o Lawn areas

- ✓ Routine irrigation
- ✓ Reduced irrigation
- ✓ Limited irrigation

o Mixed shrub and flower beds

- ✓ Routine irrigation
- ✓ Reduced irrigation
- ✓ Limited irrigation



Hydrozones

- o Lawn areas
 - ✓ Routine irrigation
 - ✓ Reduced irrigation
 - ✓ Limited irrigation
- o Mixed shrub and flower beds
 - ✓ Routine irrigation
 - ✓ Reduced irrigation
 - ✓ Limited irrigation
- o **Non-irrigated areas**

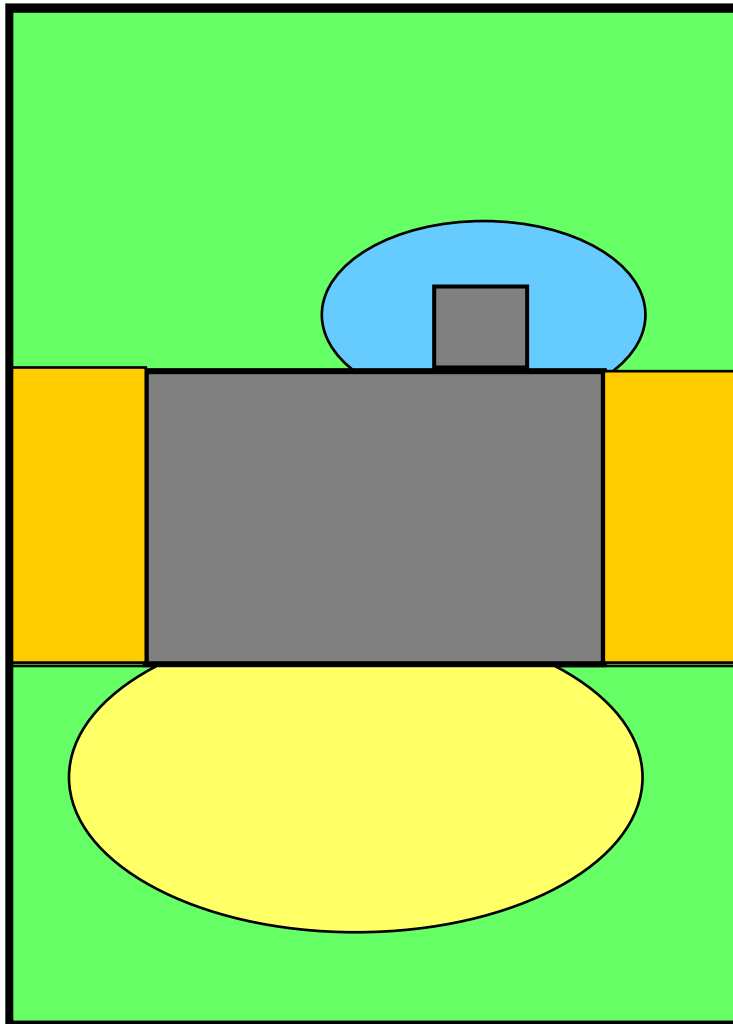


Hydrozones

- **Lawn areas**
 - ✓ Routine irrigation
 - ✓ Reduced irrigation
 - ✓ Limited irrigation
- **Mixed shrub and flower beds**
 - ✓ Routine irrigation
 - ✓ Reduced irrigation
 - ✓ Limited irrigation
- **Non-irrigated areas**



Hydrozone Bubble Drawings



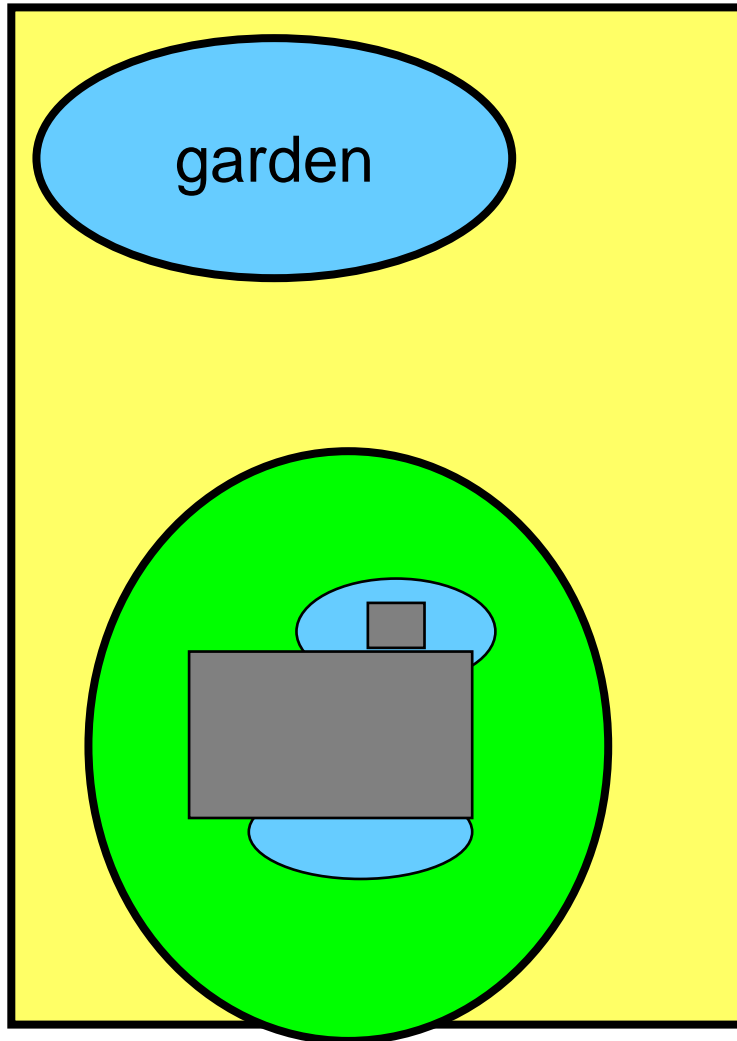
Routine
Irrigation

Reduced
Irrigation

Limited
irrigation

Non-
irrigated

Hydrozones Bubble Drawings



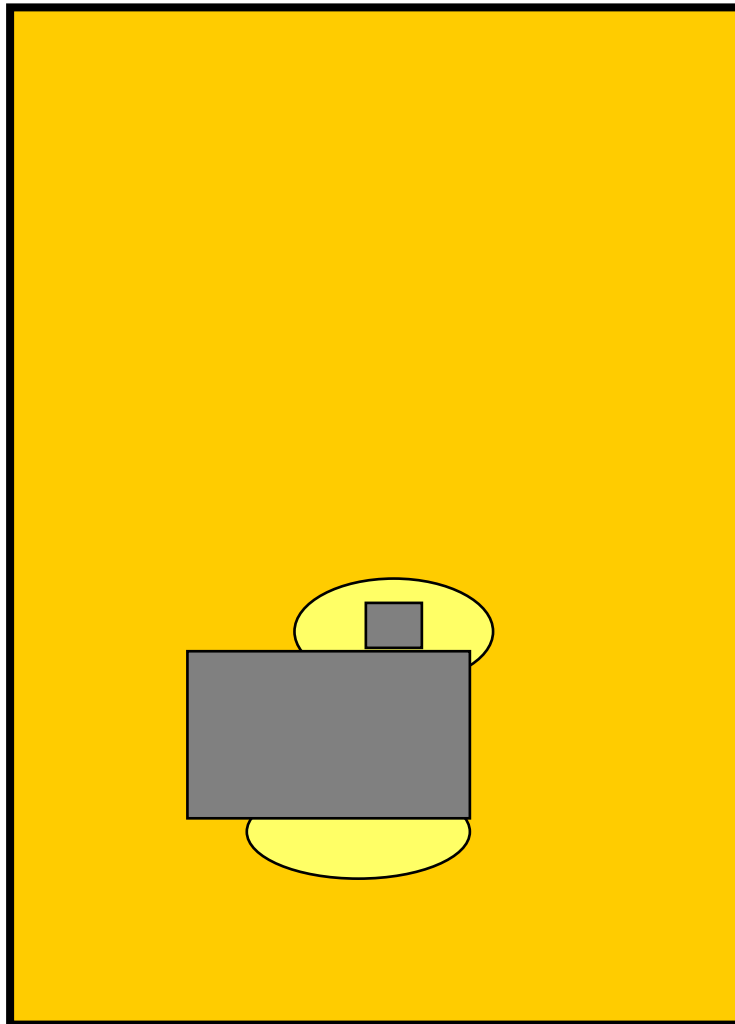
Routine
Irrigation

Reduced
Irrigation

Limited
irrigation

Non-
irrigated

Hydrozones Bubble Drawings



Routine
Irrigation

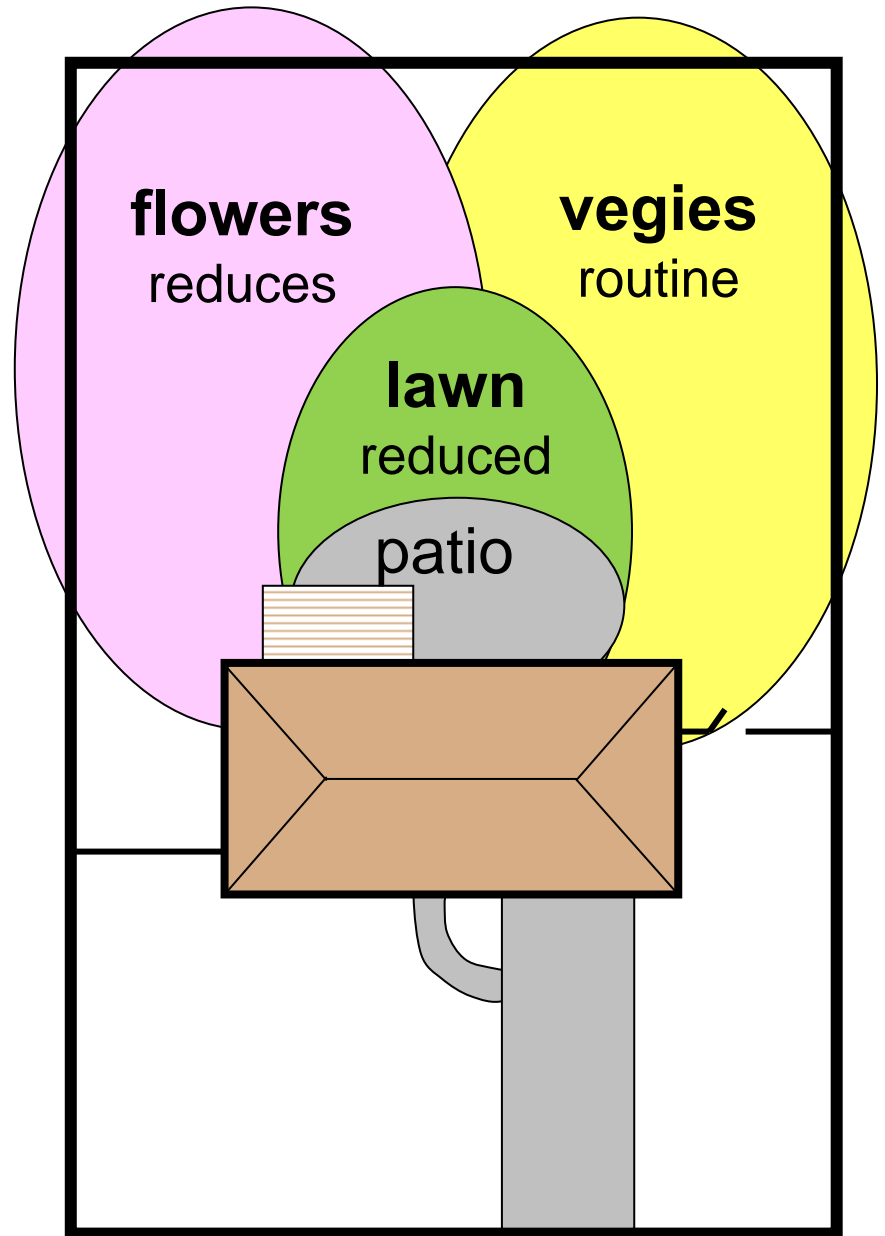
Reduced
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Limited
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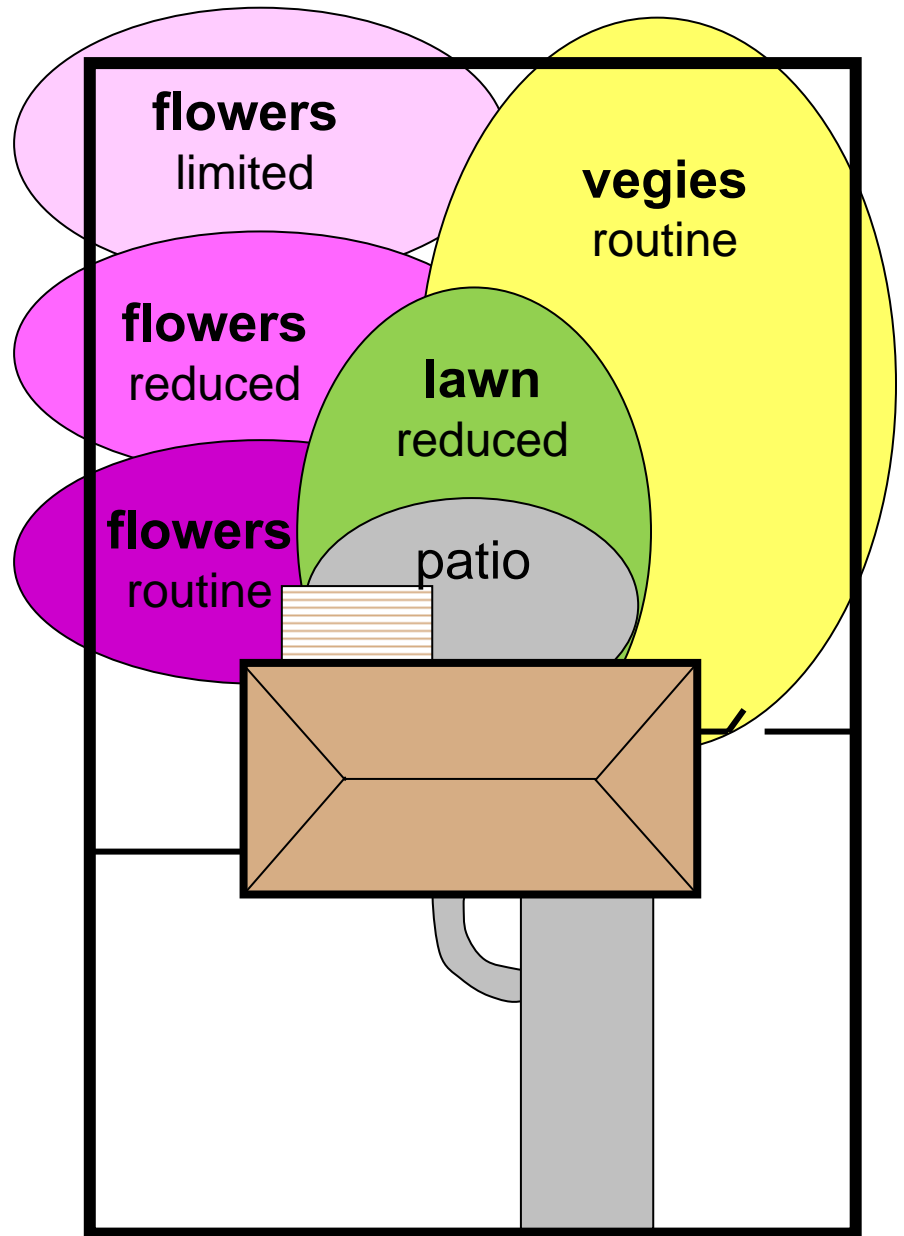
Hydrozone bubble drawings

**Defining space
Defining irrigation need**



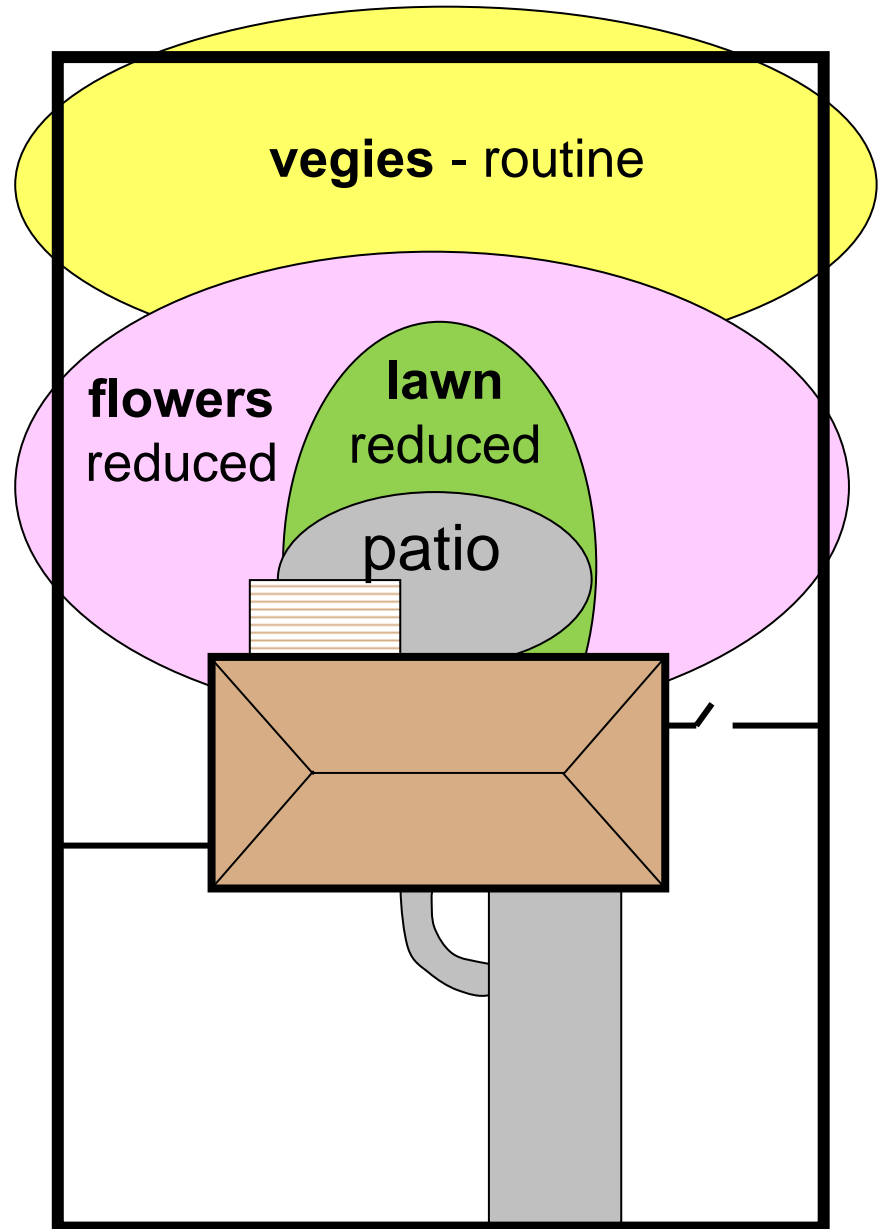
Hydrozone bubble drawings

Defining space
Defining irrigation need



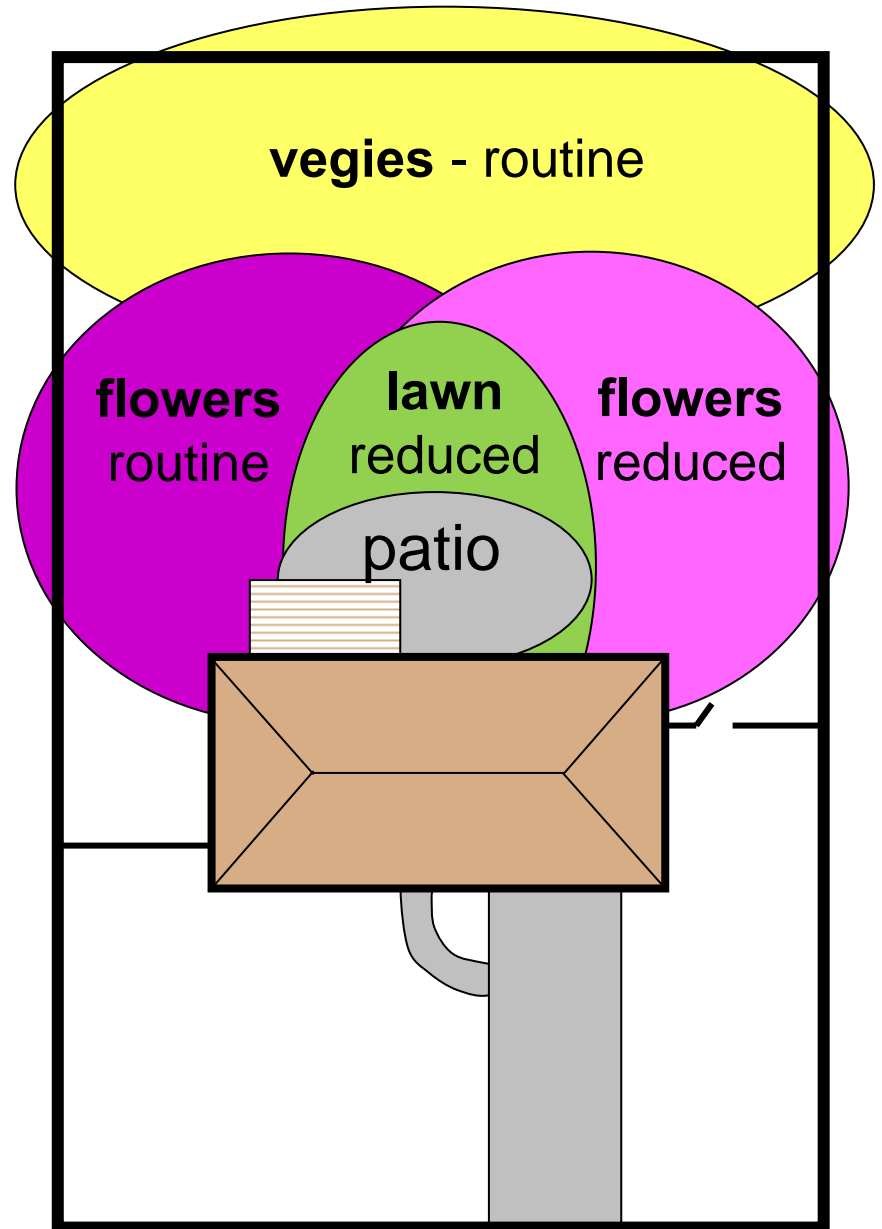
Hydrozone bubble drawings

**Defining space
Defining irrigation need**



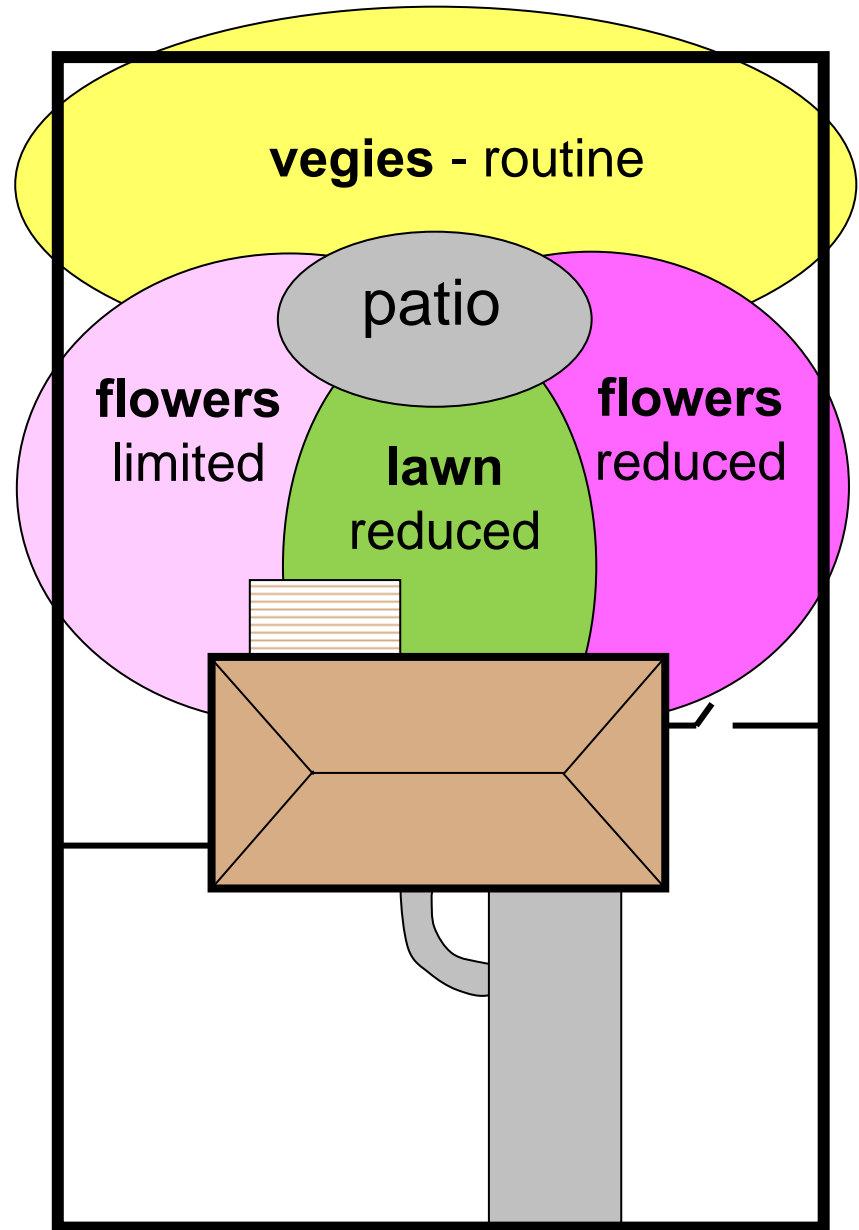
Hydrozone bubble drawings

Defining space
Defining irrigation need



Hydrozone bubble drawings

**Defining space
Defining irrigation need**

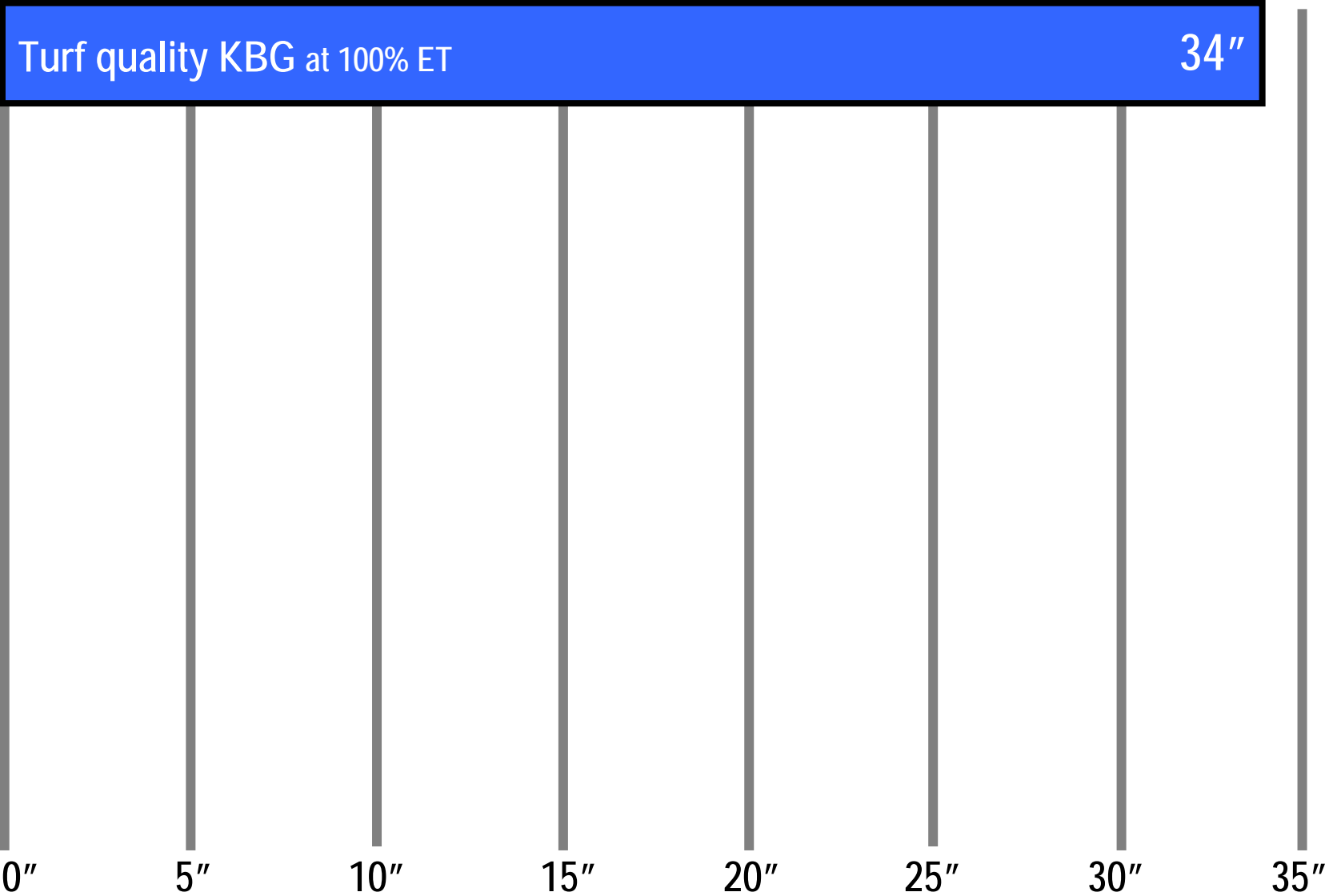


A vibrant garden scene featuring a well-maintained green lawn. In the background, a wooden arched bench sits under a large, leafy bush. To the right, a white lattice fence is adorned with a hanging basket of red flowers. The foreground is filled with various plants, including tall green grasses, red flowers, and a large green plant with broad leaves. A paved area is visible on the right side. A semi-transparent text box is overlaid on the bottom center of the image.

**Creating practical turf
and non-turf areas**

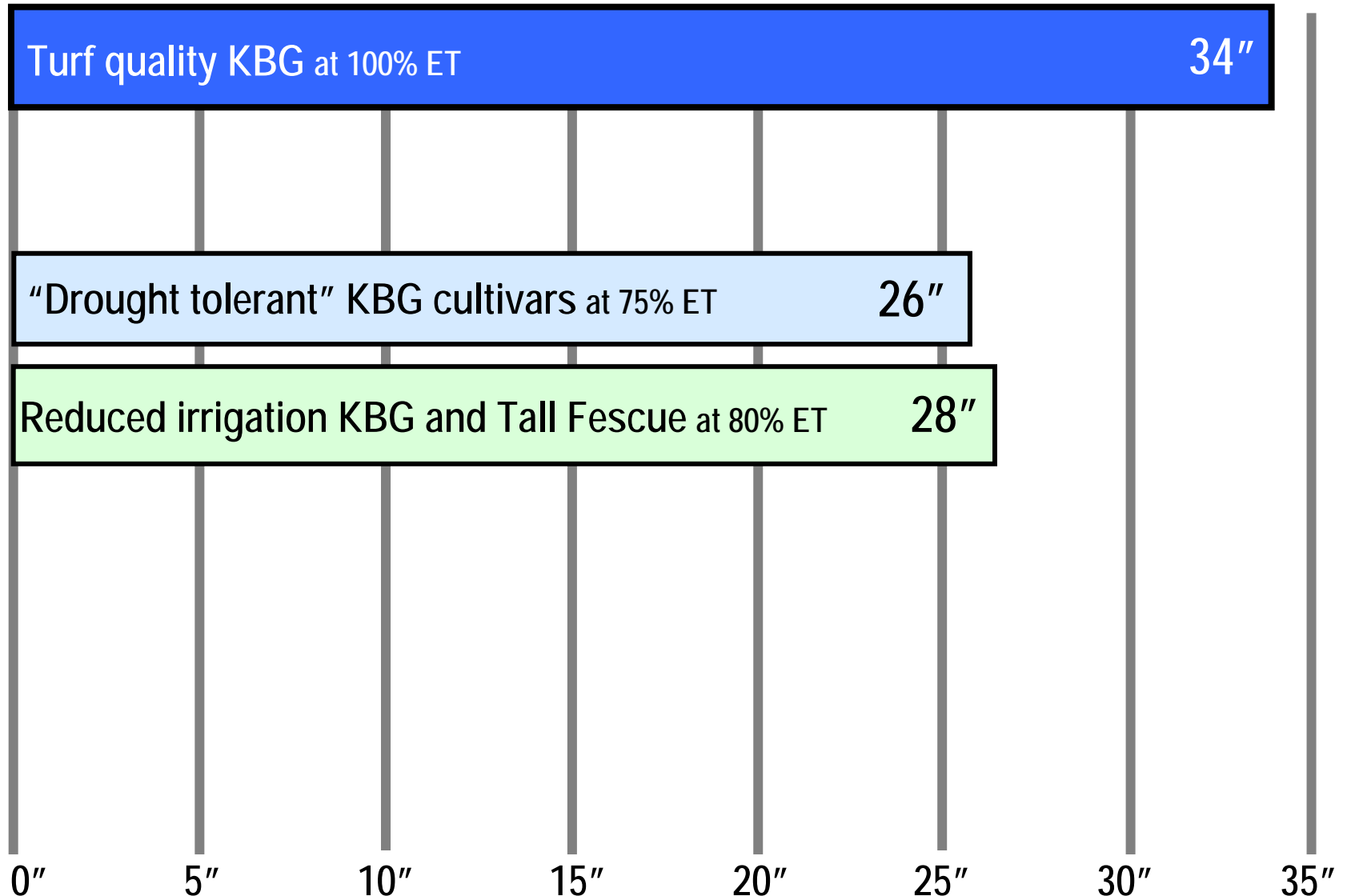
Comparative Annual Water Requirements

including rain and irrigation



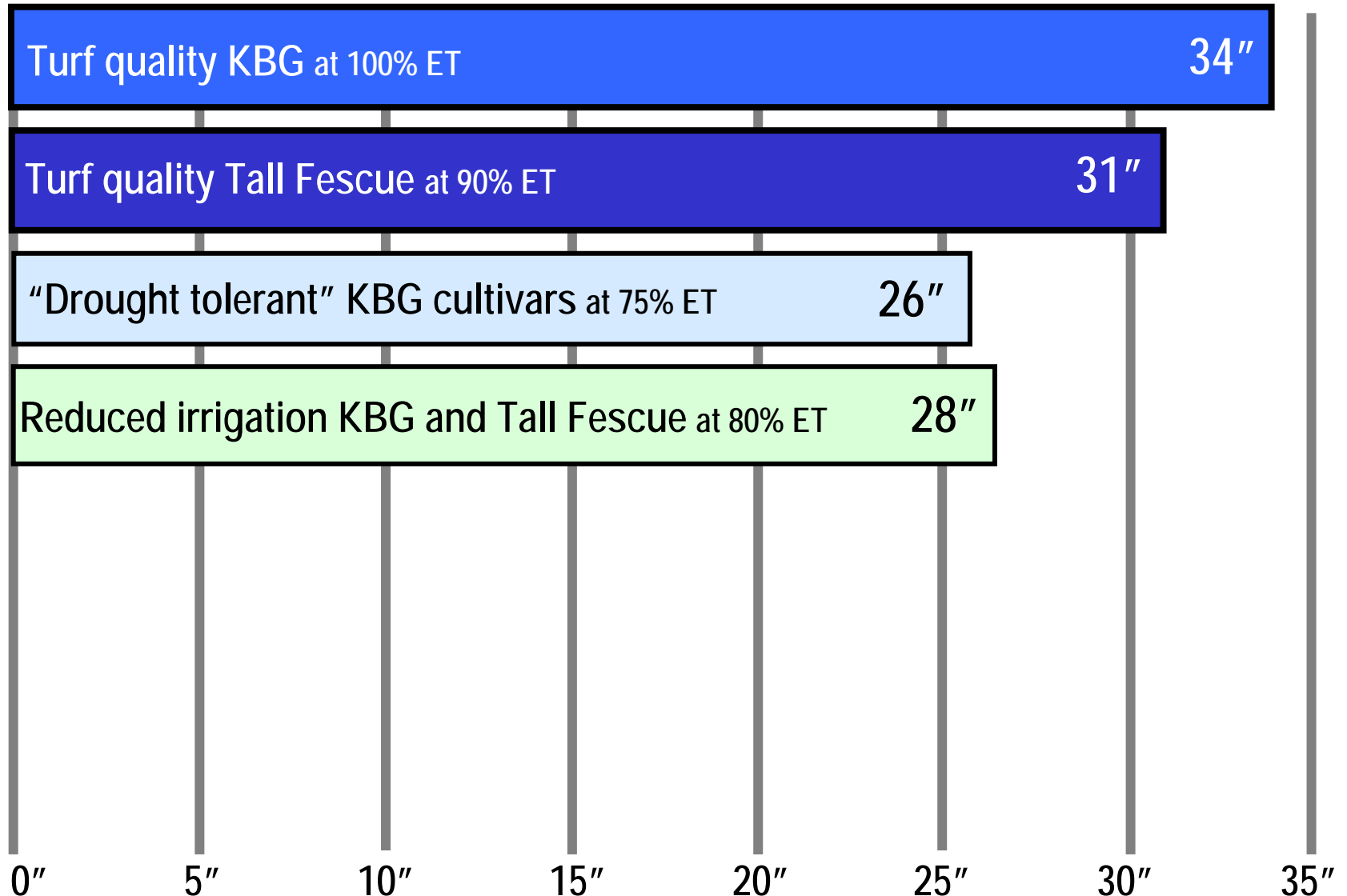
Comparative Annual Water Requirements

including rain and irrigation



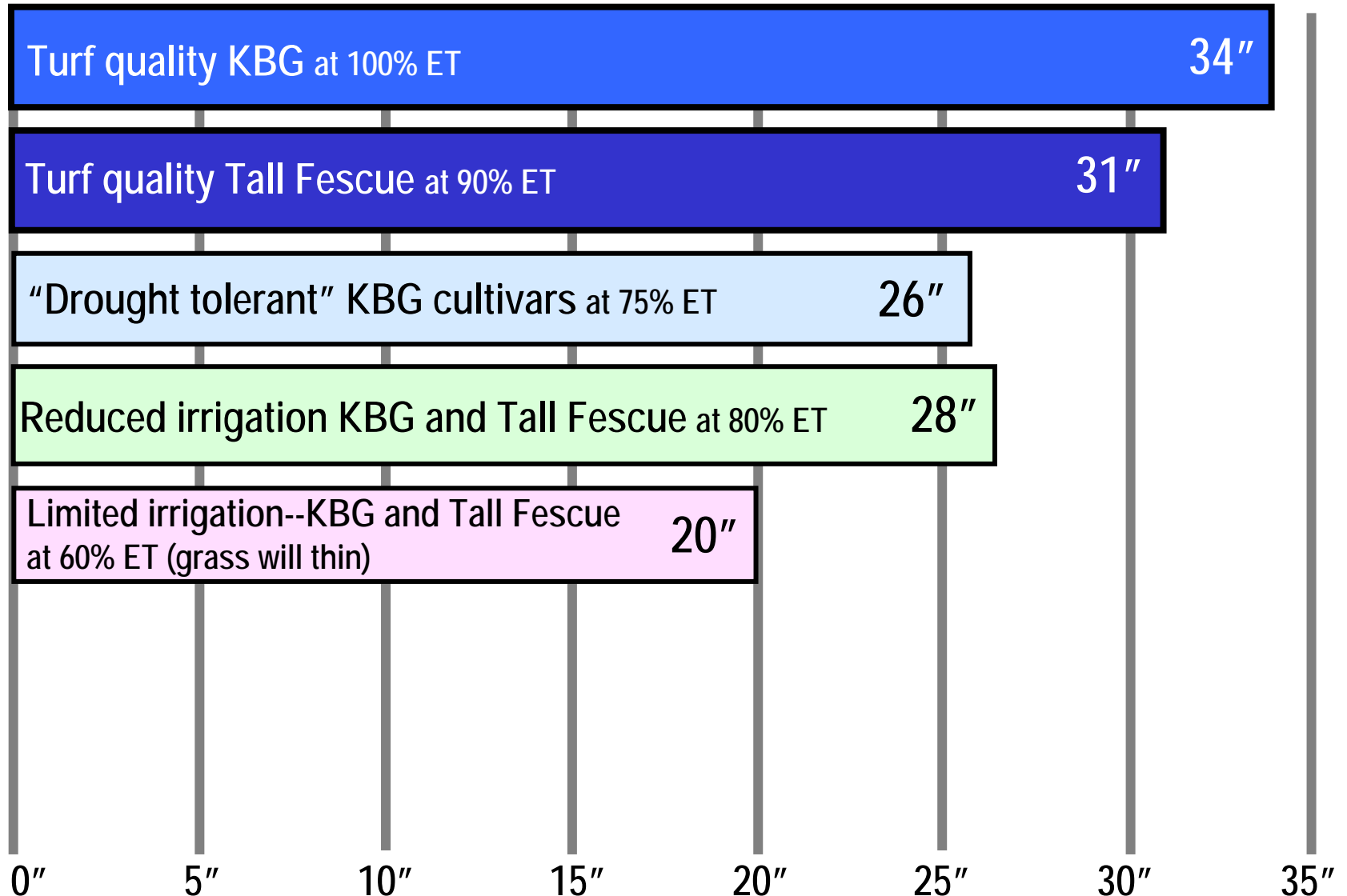
Comparative Annual Water Requirements

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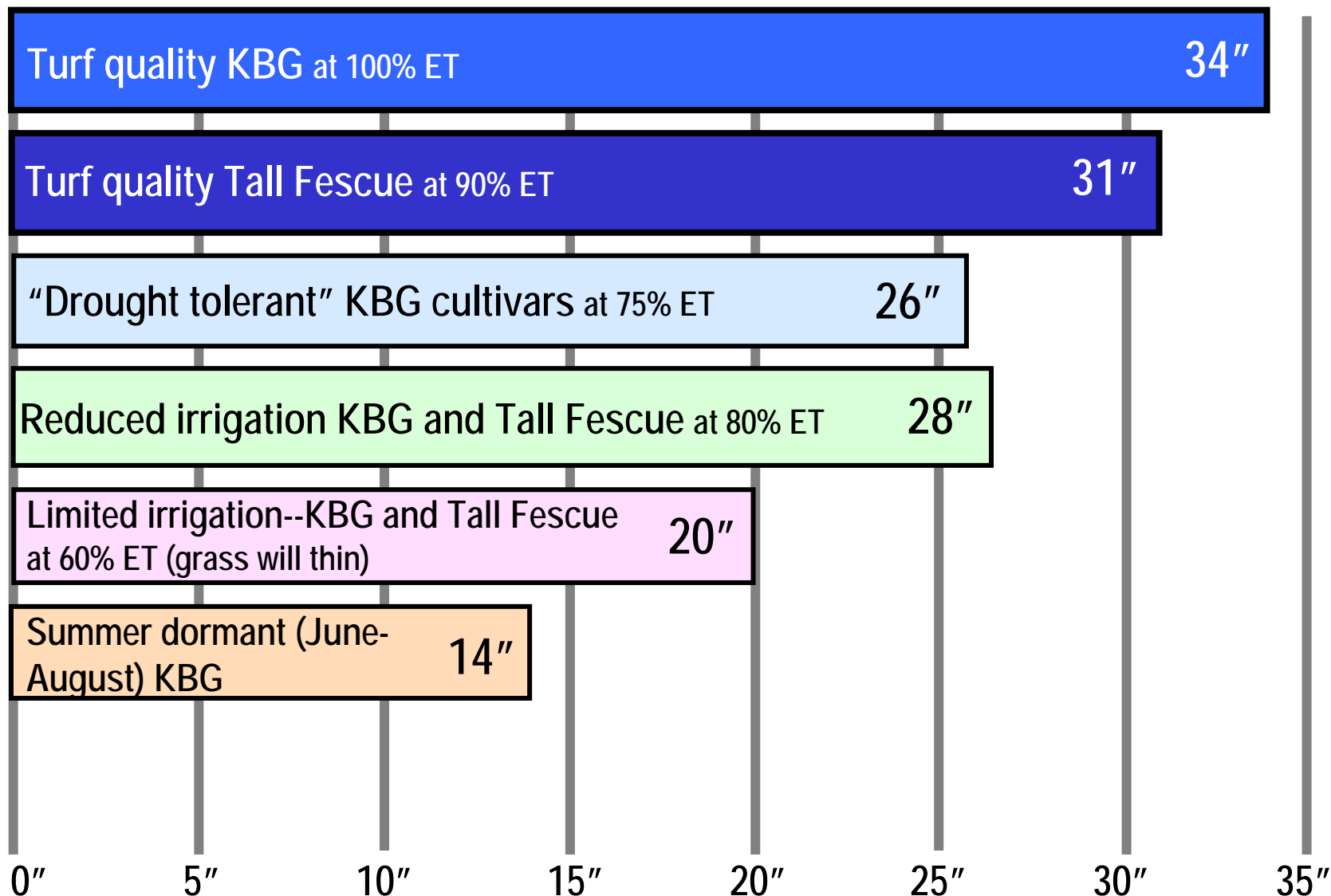
Comparative Annual Water Requirements

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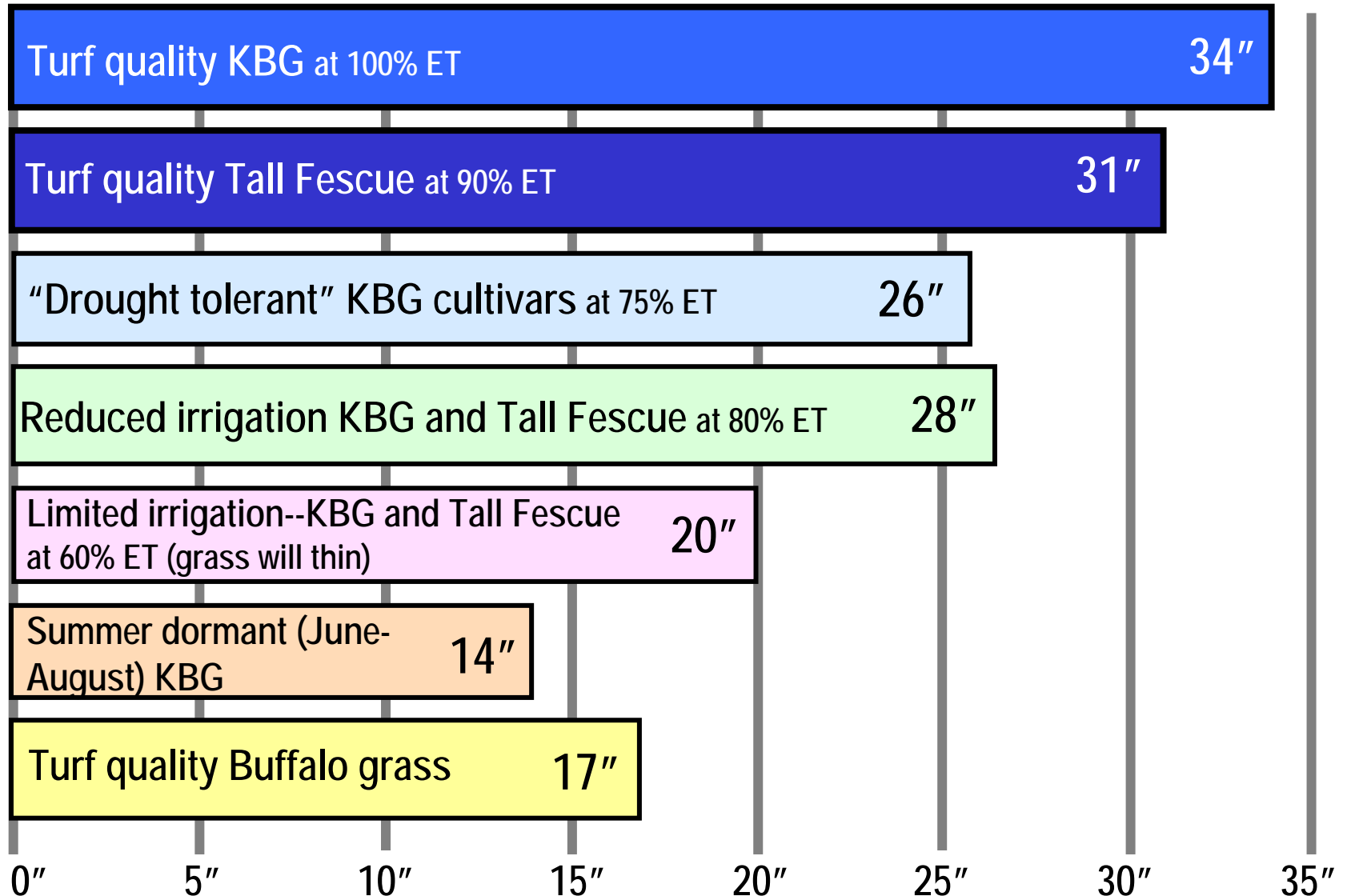
Comparative Annual Water Requirements

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Comparative Annual Water Requirements

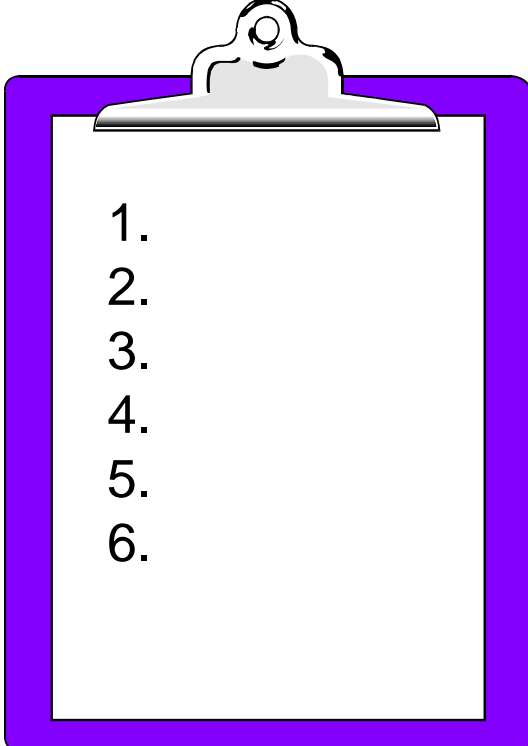
including rain and irrigation





Creating practical and pleasing outdoor living space

Plant consideration lists based on *hydrozones*



- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

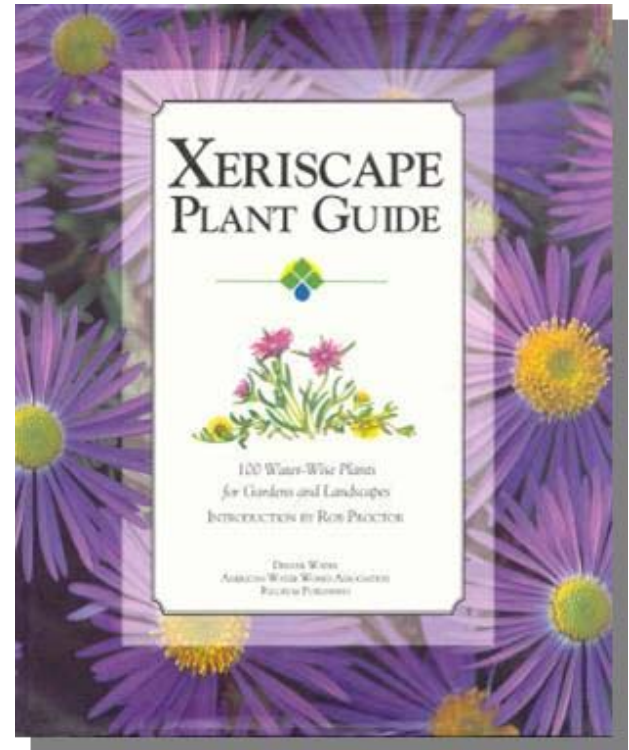
Extension Fact Sheets

- Deciduous shrubs, #7.415
- Evergreen shrubs, #7.414
- Evergreen trees, #7.403
- Hedges, #7.208
- Large deciduous trees for street and shade, #7.419
- Native shrubs for Colorado landscapes, #7.422
- Native trees for Colorado landscapes, #7.421
- Shrubs for mountain communities, #7.407
- Small deciduous trees for privacy and color, #7.418
- Trees for mountain communities, #7.408
- Xeriscaping trees and shrubs #7.229

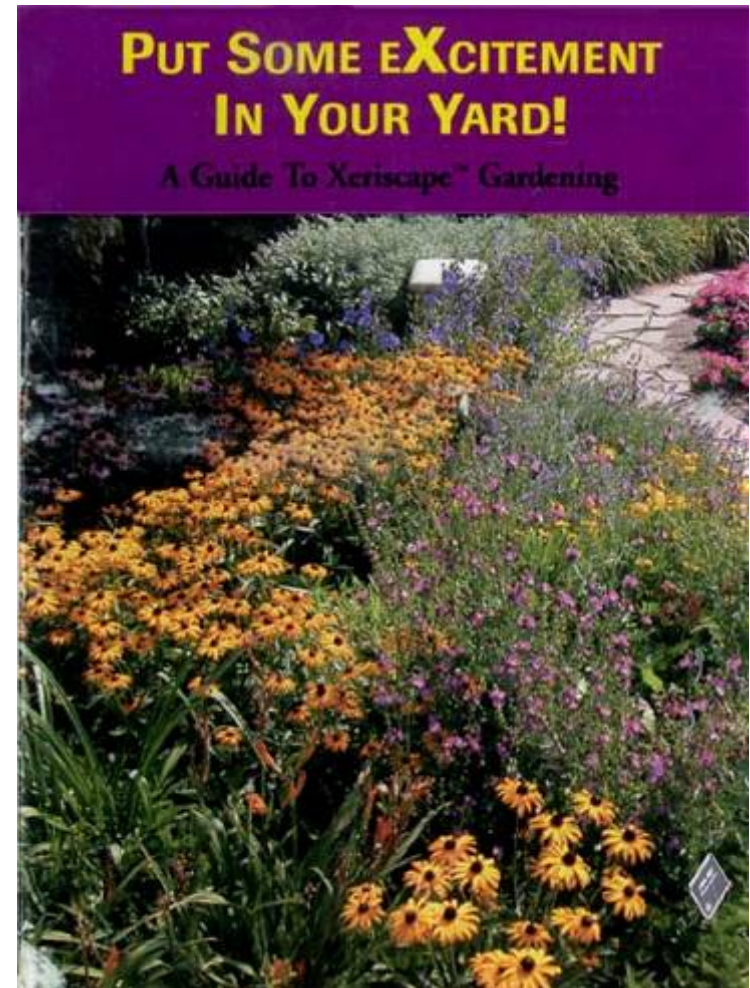
Colorado's semi-arid climate

Suggested references

- ✓ ***Xeriscape Plant Guide***
by Denver Water,
Fulcrum Publishing



www.xratedgardening.com



Colorado's semi-arid climate

- On sites where landscape irrigation is not desirable or possible, focus on natural growth.













Xeriscaping is NOT a rock pile.

A photograph of a field filled with numerous yellow wildflowers in bloom. The flowers are densely packed in the foreground and middle ground. In the background, there is a line of dark, leafy trees under a bright sky. The overall scene is a lush, natural landscape.

Even xeric plants need rain and/or irrigation during establishment.

A scenic landscape photograph. In the foreground, there is a lush garden with green grass, purple lupine flowers, and a large, dark green bush on the left. A tall, thin evergreen tree stands on the right. In the middle ground, there is a flat, open field. The background features a range of mountains with prominent, dark, rocky peaks under a clear blue sky.

Gardens with limited to no irrigation will thrive some years and decline other years.

Create effective plant combinations by paring opposites

● Paired opposites!

- Fine / Course
- Round / Upright
- Small / Large
- Short / Tall
- Thug / Dainty































