

# BÖLÜM 2

## SÜS BİTKİLERİNİN BESİN MADDESİ GEREKSİNİMLERİ

Süs bitkilerinin besin maddesi gereksinimi ;

- Gelişme durumuna
- Gelişme dönemine
- Mevsimine
- Yaşına
- Çevre koşullarına göre farklılık gösterir.



Calceolaria

Çoğu süs bitkilerinde ilkbahar ve yaz aylarındaki gereksinim sonbahar ve kış aylarındaki gereksinime oranla daha yüksektir.

Ancak Açelya, E. Pulcherrima, Krizantem gibi sonbahar ve kış dönemine doğru çiçeklenen ve dolayısıyla besin maddesi gereksinimleri bu dönemde yüksek olan süs bitkileri de vardır.

Açelya

Euphorbia pulcherrima

Krizantem...

Rechsteineria  
(Gesneria)



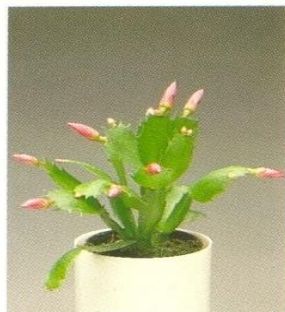
9539

Rhipsalidopsis



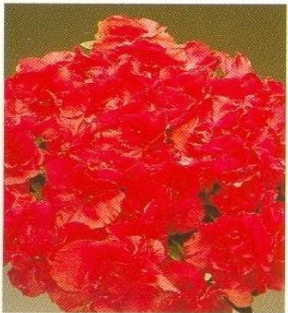
9541

Rhipsalidopsis



9820

Rhododendron  
simsii  
'Ambrosiana'



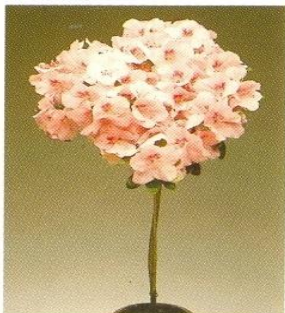
9045

Rhododendron  
simsii  
'Avenir'



9047

Rhododendron  
simsii  
'Bettina'



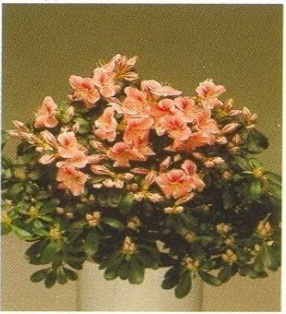
9061

Rhododendron  
simsii  
'De Waele's Favoriet'



9058

Rhododendron  
simsii  
'Dogwood'



8503

Rhododendron  
simsii  
'Euratom'



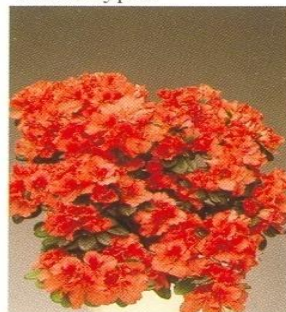
9728

Rhododendron  
simsii  
'Friedhelm Scherrer'



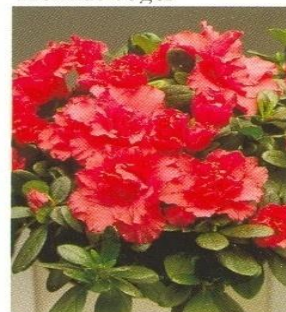
9062

Rhododendron  
simsii  
'Glaser typen'



9064

Rhododendron  
simsii  
'Helmut Vogel'



9070

Rhododendron  
simsii  
'Inga'



9050

Rhododendron  
simsii  
'Knut Erwin'



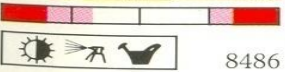
9056

Rhododendron  
simsii  
'Leopold Astrid'



9708

Rhododendron  
simsii  
'Mevr. Kint'



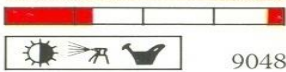
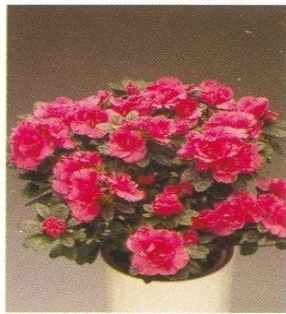
8486

Rhododendron  
simsii  
'Pink Dream'



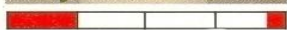
9724

Rhododendron  
simsii  
'Reinhold Ambrosius'



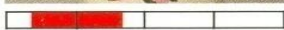
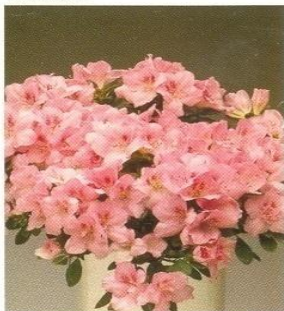
9048

Rhododendron  
obtusum  
'Rex'



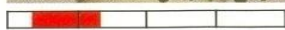
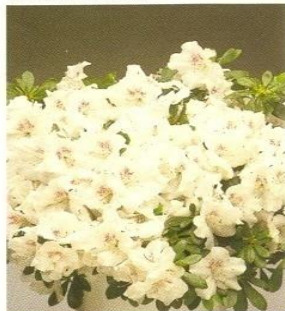
9084

Rhododendron  
simsii  
'Rosalie'



9072

Rhododendron  
simsii  
'Stella Maris'



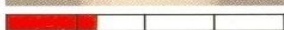
9214

Rhododendron  
simsii  
'Truffaut'



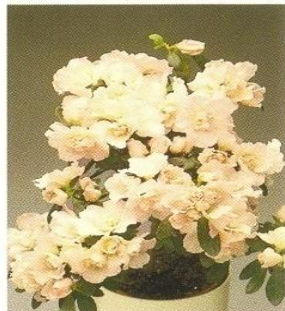
8069

Rhododendron  
simsii  
'Violacaea'



9068

Rhododendron  
simsii  
Werner Muckel



9882

Rhoicissus  
capensis



9185

Rosa



9548

Saintpaulia  
'Carmen'



8630

Saintpaulia  
'Firnshnee'



8639

Saintpaulia  
'Gisela'



8631

Saintpaulia  
'Maria'



8632

Saintpaulia  
'Nathalie'



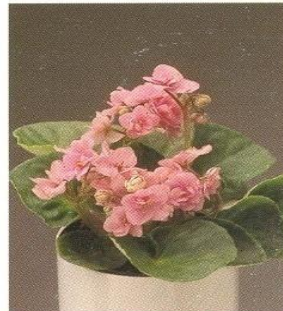
8638

Saintpaulia  
'Rapunzel'



8633

Saintpaulia  
'Roccoco'



8324

Saintpaulia  
'Silber Dollar'



8570

Saintpaulia  
'Waldfee'



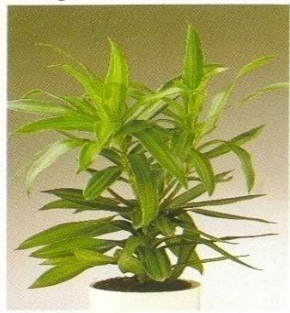
8634

Saintpaulia  
'Delft'



8666

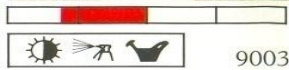
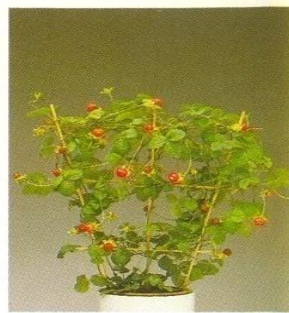
*Dracaena reflexa*  
'Song of Jamaica'



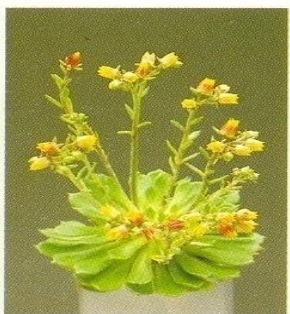
*Dracaena sanderiana*  
'Celica'



*Duchesnea indica*



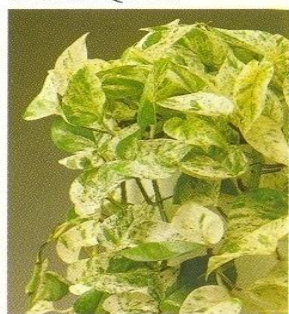
*Echeveria setosa*



*Epipremnum aureum*



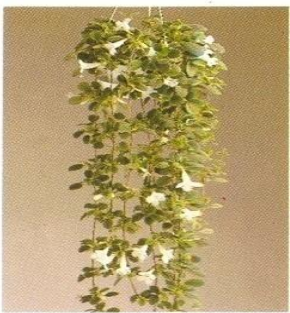
*Epipremnum aureum*  
'Marble Queen'



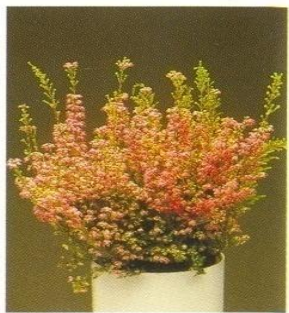
*Episcia dianthiflora*



*Episcia dianthiflora*



*Erica*



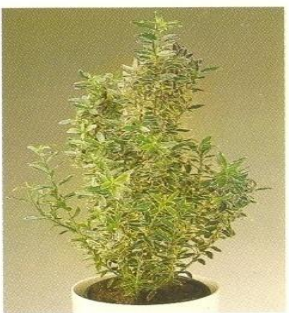
*Euonymus japonicus*



*Euonymus 'Luna'*



*Euonymus 'Microphyllus'*



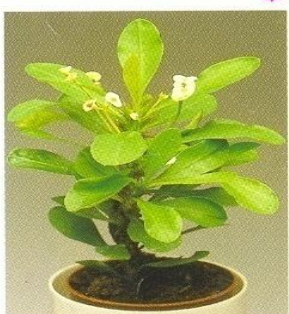
*Euonymus 'Silver Queen'*



*Euphorbia 'Keysii'*



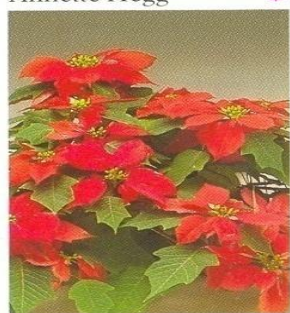
*Euphorbia milii*



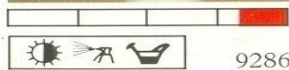
*Euphorbia pulcherrima*  
'Angelica'



*Euphorbia pulcherrima*  
'Annette Hegg'



*Euphorbia pulcherrima*



*Euphorbia pulcherrima*



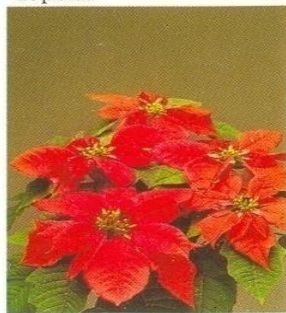
9287

*Euphorbia pulcherrima*  
'Harlekin'



8587

*Euphorbia pulcherrima*  
'Topstar'



9277

*Euphorbia pulcherrima*



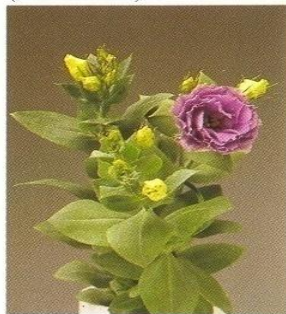
9279

*Euphorbia trigona*  
(*Hermentiana*/  
*Triangularis*)



9554

*Eustoma grandiflorum*  
(*Lisianthus*)



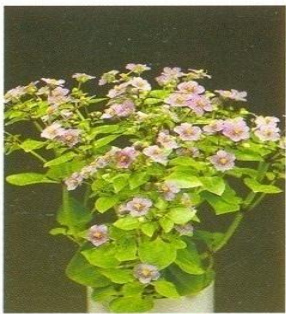
9881

*Euterpe edulis*



9296

*Exacum affine*



8411

*x Fatshedera lizei*



8161

*x Fatshedera lizei*  
'Annemieke'



8160

*x Fatshedera lizei*  
'Pia'



8162

*Fatsia japonica*



8415

*Fatsia japonica*  
'Variegata'



8440

*Ficus benjamina*  
'Exotica'



9566

*Ficus benjamina*  
'Golden Princess'



8394

*Ficus benjamina*  
'Rijssenhout'



9976

*Ficus deltoidea*  
(*diversifolia*)



9307

*Ficus elastica*



9305

<p>Chlorophytum comosum 'Variegatum'</p>     <p>9180</p>	<p>Chrysanthemum frutescens</p>     <p>9965</p>	<p>Chrysanthemum morifolium 'Alert'</p>     <p>8603</p>	<p>Chrysanthemum morifolium 'Surf'</p>     <p>8582</p>	<p>Chrysanthemum morifolium 'Vista'</p>     <p>8586</p>	<p>Chrysanthemum parthenium</p>     <p>8459</p>
<p>Chrysanthemum morifolium 'Boston Family'</p>     <p>8573</p>	<p>Chrysanthemum morifolium 'Chic'</p>     <p>8574</p>	<p>Chrysanthemum morifolium 'Ivory Light'</p>     <p>8576</p>	<p>Cissus antarctica</p>     <p>9187</p>	<p>Cissus rhombifolia 'Ellen Danica'</p>     <p>9292</p>	<p>x Citrofortunella mitis (Citrus)</p>     <p>9192</p>
<p>Chrysanthemum morifolium 'Joy'</p>     <p>8577</p>	<p>Chrysanthemum morifolium 'Mandarin'</p>     <p>8579</p>	<p>Chrysanthemum morifolium 'Ritz'</p>     <p>8581</p>	<p>Clerodendrum thomsonae</p>     <p>8114</p>	<p>Clivia miniata</p>    <p>9196</p>	<p>Clusia rosea</p>     <p>9195</p>

BİR SÜS BİTKİSİNİN YETERLİ BESLENİP  
BESLENMEDİĞİ  
NASIL ANLAŞILIR??



Süs bitkilerinin yeterli düzeyde beslenip beslenmedikleri en doğru olarak **bitkinin analiz edilmesiyle** anlaşılabilir.

Analizler sonrasında herhangi bir besinin “**Yeterli**” düzeyin altında bulunması, bu süs bitkisine gübreleme yapılarak o besin maddesinin verilmesi gerektiğinin açık bir göstergesidir.

Çeşitli süs bitkileri analiz edildiğinde farklı besin maddelerinin değişik düzeylerde olduğu görülmüştür.

Rosa odorata  
(Çin Gülü)

N, %

Yeter Düzey  
3.00-5.00  
(Ort. 4.00)

Hibiscus rosa sinensis\*  
(Japon Gülü)

P, %

Yeter Düzey  
0.25-1.00  
(Ort. 0.63)

Diffenbachia maculata\*

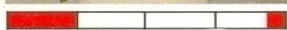
K, %

Yeter Düzey  
3.50-5.50  
(Ort. 4.50)

Maranta leucorneuro\*

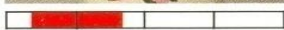
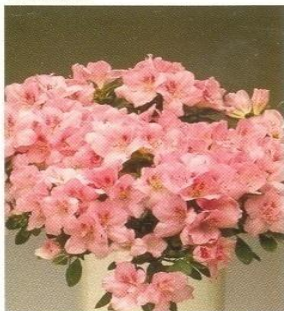
Yeter Düzey  
3.00-5.50  
(Ort. 4.25)

Rhododendron  
obtusum  
'Rex'



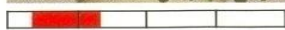
9084

Rhododendron  
simsii  
'Rosalie'



9072

Rhododendron  
simsii  
'Stella Maris'



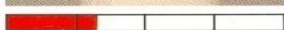
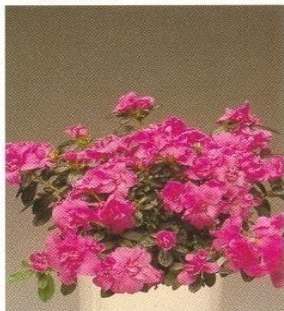
9214

Rhododendron  
simsii  
'Truffaut'



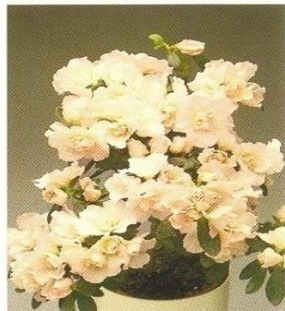
8069

Rhododendron  
simsii  
'Violacaea'



9068

Rhododendron  
simsii  
Werner Muckel



9882

Rhoicissus  
capensis



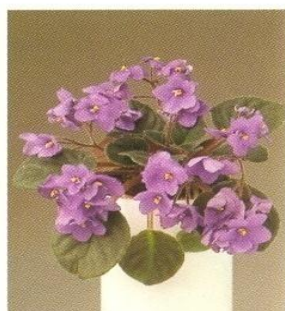
9185

Rosa



9548

Saintpaulia  
'Carmen'



8630

Saintpaulia  
'Firnshnee'



8639

Saintpaulia  
'Gisela'



8631

Saintpaulia  
'Maria'



8632

Saintpaulia  
'Nathalie'



8638

Saintpaulia  
'Rapunzel'



8633

Saintpaulia  
'Roccoco'



8324

Saintpaulia  
'Silber Dollar'



8570

Saintpaulia  
'Waldfee'



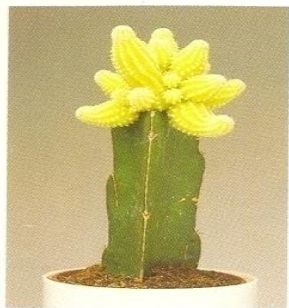
8634

Saintpaulia  
'Delft'



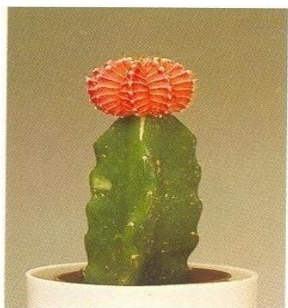
8666

Gymnocalycium  
'Brasil'



8174

Gymnocalycium  
'Japan'



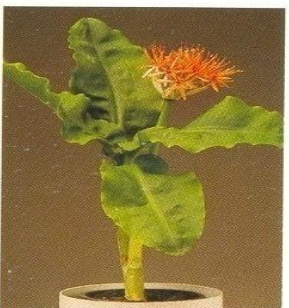
8176

Gynura



9334

Haemanthus



8179

Hebe  
x andersonii  
'Variegata'



9338

Hedera  
canariensis  
'Variegata'



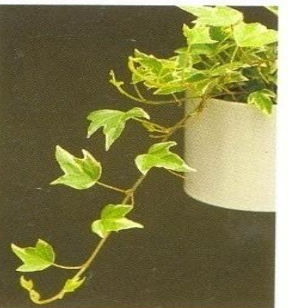
9340

Hedera  
helix  
'Brigitte'



9850

Hedera  
helix  
'Eva'



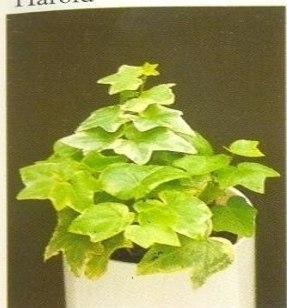
9769

Hedera  
helix  
'Hanny'



8185

Hedera  
helix  
'Harold'



9767

Hedera  
helix  
'Kolibri'



8443

Hedera  
helix  
'Pittsburg'



9768

Hedera  
helix  
'Sagittaeifolia'



9770

Hedera  
helix  
'Shamrock'



9851

Hedera  
helix  
'Suzanne'



9852

Helleborus  
niger



9354

Hibiscus  
'Paramaribo'



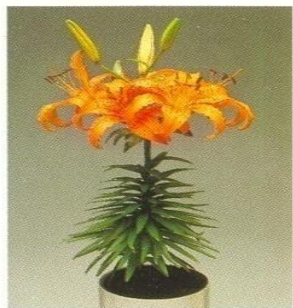
9353

Hibiscus  
rosa-sinensis hybr.



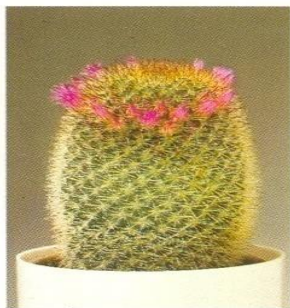
8192

Lilium



9385

Mammillaria



9380

Maranta leuconera 'Fascinator' (Tricolor)



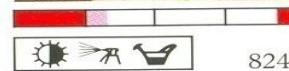
9384

Musa



8240

Muscari



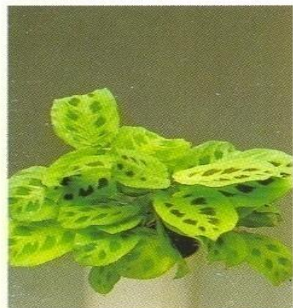
8241

Narcissus 'Tête à Tête' \*



8504

Maranta leuconera 'Kerchoveana'



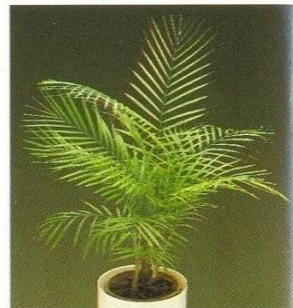
9383

Medinilla magnifica



9387

Microcoelum weddellianum



9388

Nematanthus gregarius (Hypocyrtia)



9370

Neoregelia carolinae 'Meyendorffii'



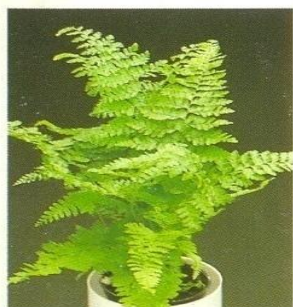
9398

Neoregelia carolinae 'Tricolor'



9399

Microlepia speluncae



9389

Mikania ternata \*



9386

Monstera deliciosa \*



8237

Neoregelia 'Flandria'



9415

Nepenthes



8242

Nephrolepis cordifolia



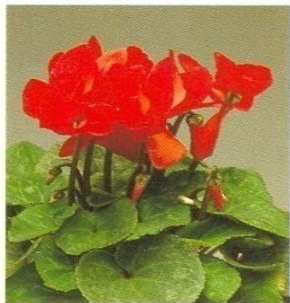
9408

Cyclamen  
'Sonja'



8674

Cyclamen  
'Vuurbaak'



9238

Cymbidium



9252

Cymbidium



9758

Cyperus  
alternifolius



9248

Cyperus  
argenteostriatus



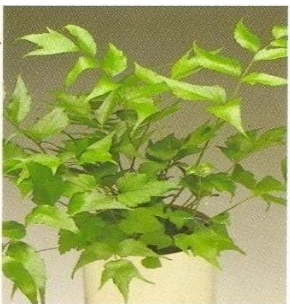
9251

Cyperus  
papyrus



9249

Cyrtomium



9254

Dahlia  
variabilis  
hybr.



9250

Datura



9928

Davallia



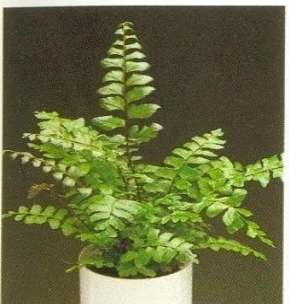
9260

Dianthus



8142

Didymochlaena  
truncatula



9256

Dieffenbachia  
amoena seguine  
'Amoena'



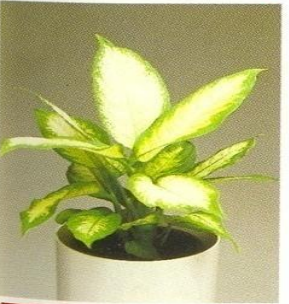
9258

Dieffenbachia  
amoena seguine  
'Tropic Snow'



9422

Dieffenbachia  
'Camilla'



9339

Dieffenbachia  
'Candida'



9933

Dieffenbachia  
'Exotica Perfecta  
Compacta'



9282

Süs bitkileri Besin maddesi gereksinimlerine göre sınıflandırıldığında; bazı süs bitkilerinin besin maddesi gereksiniminin **az**, bazılarının **orta**, bazılarının da **yüksek** olduğu görülmektedir.

### Besin maddesi gereksinimi

#### Az

Adiantum

Açelya

Gardenia

Primula obconica

#### Orta

*Aechmea fasciata*

*Begonia*

*Cyclamen*

*Gerbera*

#### Yüksek

*Chrysanthemum*

*E. Pulcherrima*

*Monstera*

*S.ionantha*

İç mekan (saksı) süs bitkisi olarak yetiştirilecek olan farklı süs bitkilerinin azota olan gereksinimleri de değişkenlik göstermektedir.

Bitki

Anemone  
(Rüzgar çiçeği)



Gereksinim düzeyi

700 mg N/ bitki

Asclepias



1350 mg N/bitki

Cyclamen  
(Sıklamen)



200 mg N/bitki

Gerbera



585-840 mg N/bitki



Gerbera



9687

Glechoma hederacea 'Variegata'



9677

Gloriosa superba



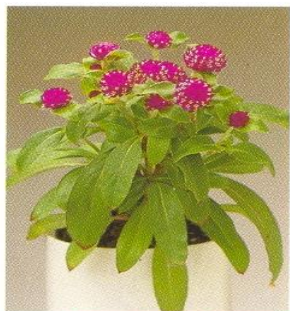
9320

Gloxinia latifolia



9801

Gomphrena



9321

Grevillea robusta



9322

Guzmania 'Amaranth'



9562

Guzmania dissitiflora



9563

Guzmania 'Cherry'



9501

Guzmania 'Claudine'



9446

Guzmania 'Empire'



9517

Guzmania 'Grand Prix'



9328

Guzmania 'Marlebeca'



9330

Guzmania 'Mini Exodus'



9342

Guzmania 'Minor'



9326

Guzmania 'Remembrance'



9562

Guzmania 'Remembrance'



9564

Guzmania sanguinea



9327

Guzmania wittmackii

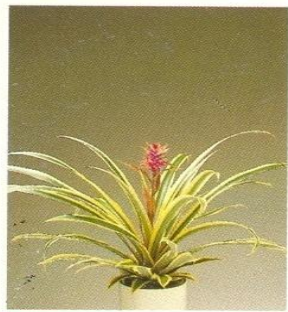


9984

Kesme çiçek olarak yetiştirilen bazı süs bitkilerinin azot gereksinimlerine bakıldığında bitki başına azot yönünden **Gerbera en yüksek**, **Anthurium en düşük** düzeyde gereksinim göstermektedir.

<u>Bitkiler</u>	<u>Gereksinim düzeyi</u>
<b>Anthurium</b> (Flamingo çiçeği)	<b>0.18 g N/bitki</b>
Chrysanthemum	0.17-0.58 g N/bitki
<b>Gerbera</b>	<b>5.4-8.1 g N/bitki</b>
Dianthus (Karanfil)	60-120 g N/m <sup>2</sup>
Rosa (Gül)	30-40 g N/m <sup>2</sup>

Ananas porteanus



9032

Ananas



9024

Ananas comosus 'Aureovariegatus'



9029

Araucaria heterophylla (A. excelsa)



9033

Archontophoenix x cunninghamiana



9756

Ardisia crenata (A. crispa)



9034

Anthurium andreaeanum



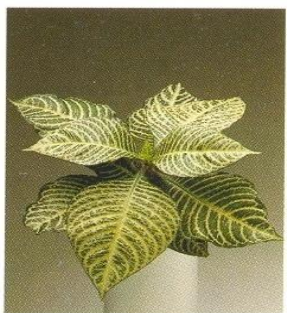
9755

Anthurium scherzerianum 'Amazone'



9993

Aphelandra 'Silver Queen'



8047

Areca baueri



9002

Asparagus densiflorus 'Meyers'



9757

Asparagus densiflorus 'Sprengeri'



9036

Aphelandra squarrosa 'Dania'



8045

Aporocactus flagelliformis



8048

Araucaria araucana



9042

Asparagus falcatius



9037

Asparagus myriocladus



9041

Asparagus setaceus (A. plumosus)



8054

Süs bitkileri gübrenirken bazı durumlarda N:K oranına dikkat etmek gerekebilir.

Bitkiler

N:K<sub>2</sub>O oranı

Adiantum

1:0.7

Erica

Bovardia

1:1

Pelargonium (Sardunya)\*

Chrysanthemum

1:1.2

Spathiphyllum

Dianthus

1:1.5

Sinningia\*

Pelargonium  
Zonale-hybr.  
'Flurt'



6799

Pelargonium  
Zonale-hybr.  
'Salmon Irene'



6458

Pelargonium  
Zonale-hybr.  
'Stadt Bern'



6452

Pelargonium  
Zonale-hybr.



6448

Pelargonium  
Peltatum-hybr.  
'Roulette'



6787

Pelargonium  
Zonale-hybr.  
'Amanda'



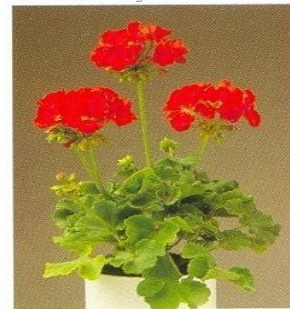
6468

Pelargonium  
Zonale-hybr.  
'Irene'



6456

Pelargonium  
Zonale-hybr.  
'Red Beauty'



6791

Pelargonium  
Zonale-hybr.  
'Springtime Irene'



6459

Pellaea  
rotundifolia



9457

Pellaea  
viridis



9458

Peperomia  
caperata



9462

Peperomia  
columbiana



9935

Peperomia  
glabella



8278

Peperomia  
obtusifolia  
'Green Gold'



9460

Peperomia  
pereskifolia



8281

Peperomia  
'Variegata'



9463

Phalaenopsis



9464

Schlumbergera



9791

Schlumbergera



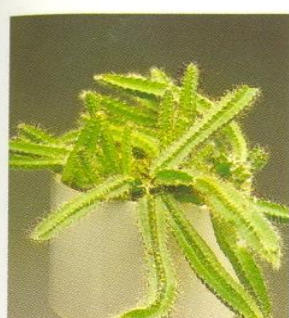
9793

Scindapsus pictus 'Argyraeus'



9583

Selenicereus



8474

Senecio cruentus



9588

Senecio herreianus



8341

Scirpus cernuus



9585

Sedum morganianum



9775

Sedum sieboldii



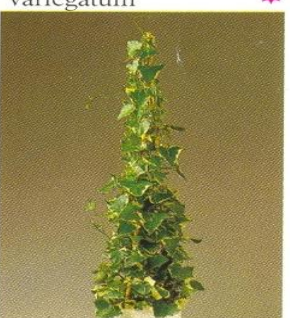
9586

Senecio kleinia



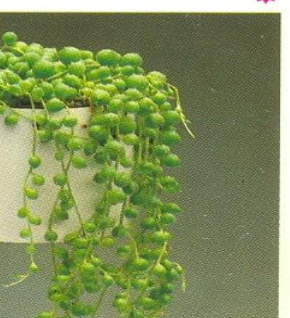
9913

Senecio macroglossus 'Variegatum'



8342

Senecio rowleyanus



8343

Selaginella apoda



8339

Selaginella kraussiana



9929

Selaginella martensii 'Watsoniana'



8340

Sinningia



9603

Sinningia



9600

Sinningia



9601

Süs bitkilerinde bulunan makro elementlerin miktarı genelde farklılıklar göstermektedir. Buna ilişkin yapılmış bir çalışmada değişik gruptan süs bitkilerinde N, P, K, Ca ve Mg miktarlarının ayrımlı olduğu belirlenmiştir (Bunt 1988).

Bitkiler	N	P	K	Ca	Mg
Açelya	2.0-3.0 (1.8)*	0.2-0.5 (0.15)	1.0-1.6 (0.75)	0.45-1.6 (0.2)	0.2-0.5 (0.2)
Poinsettia (E. Pulcherrima)	4.0-6.0 (3.0)	0.3-0.7 (0.2)	1.5-3.5 (1.8)	0.7-2.0 (1.0)	0.4-1.0 (0.25)
Gül	3.0-5.0 (3.0)	0.2-0.3 (0.2)	1.8-3.0 (1.8)	1.0-1.5 (1.0)	0.25-0.35 (0.25)
Philodendron*	2.0-3.0	0.15-0.25	3.0-4.5	0.5-1.5	0.3-0.6

Philodendron  
bipinnatifidum



9479

Philodendron  
erubescens  
'Emerald King'



9465

Philodendron  
erubescens  
'Emerald Queen'



9466

Phoenix  
roebelinii



9492

Pilea  
alumi



9493

Pilea  
cadierei



8298

Philodendron  
erubescens  
'Red Emerald'



9468

Philodendron  
erubescens  
'Royal Queen'



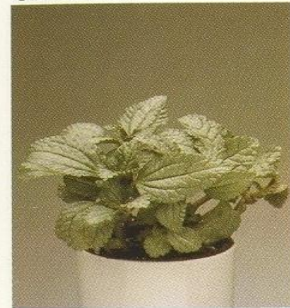
8295

Philodendron  
laciniatum



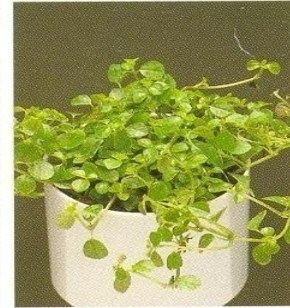
9470

Pilea  
spruceana  
'Silver Tree'



9982

Pilea



8301

Pinus  
canariensis  
'Silver Crest'



8132

Philodendron  
panduriforme



9483

Philodendron  
scandens



8466

Phoenix  
canariensis



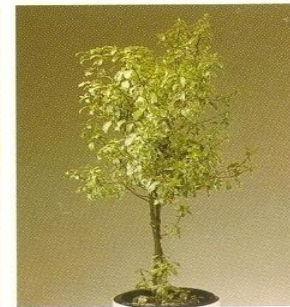
9491

Pittosporum



9496

Pittosporum



9496

Platycerium  
bifurcatum



8302



Süs bitkileri istedikleri besinleri alamazlar ise sağlıklı gelişim gösteremezler.

Süs bitkilerinin gübrenenmesi ve beslenmesi tarla ve bağ-bahçe bitkilerinin gübrenenmelerinden farklılık gösterirler.

Çoğunlukla kontrollü koşullarda ve özel saksılar veya ortamlarda yetiştirilen süs bitkileri kök bölgelerindeki besin maddelerini kısa sürede tüketirler.

Bu nedenle süs bitkilerine etkili gübreleme ve besleme programları uygulanması gerekir.

Temel olarak; bitkinin büyüklüğü, yetiştirilme dönemi, gelişme süresi, ortam sıcaklığı, ışıklandırma yoğunluğu ve yetiştirme materyali (substrat) nin yanı sıra diğer kültürel işlemler de gübreleme esnasında dikkate alınmalıdır.

SÜS BİTKİLERİNİN  
GÜBRELENMELERİ  
GEREKTIĞNDE HANGİ  
YÖNTEMLER KULLANILABİLİR ?