

*Let's Plant  
Daffodils*



*Daffodil Culture*  
By  
*Howard J. Merrill*



## The Daffodils

*I* wandered lonely as a cloud,  
That floats on high o'er vales and hills,  
When all at once I saw a crowd,  
A host of golden daffodils,  
Beside the lake, beneath the trees  
Fluttering and dancing in the breeze.

*C*ontinuous as the stars that shine  
And twinkle on the milky way,  
They stretched in never-ending line  
Along the margin of a bay:  
Ten thousand saw I at a glance  
Tossing their heads in sprightly dance.

*T*he waves beside them danced, but they  
Out-did the sparkling waves in glee—  
A poet could not but be gay  
In such a jocund company!  
I gazed—and gazed—but little thought  
What wealth the show to me had brought:

*F*or oft, when on my couch I lie  
In vacant or in pensive mood,  
They flash upon that inward eye  
Which is the bliss of solitude;  
And then my heart with pleasure fills  
And dances with the daffodils.

WILLIAM WORDSWORTH  
calligraphy ~ holly bonner ~ 1994

## DAFFODIL CULTURE

By

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Merrill Farm, owned by brothers Robert and Donald, is not a commercial grower. Daffodils are grown solely for the enjoyment of friends and family. No Sales.

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Critiques by horticultural authorities  
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 word processing and graphics by  
 Richard P. Boyd, Jr. and proof reading  
 and suggestions by Mary Heberling Boyd  
 are gratefully acknowledged. Thank you!

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## Daffodil Culture

### Introduction

Daffodil nomenclature can be confusing. While "Narcissus" is the botanical, Latin, name of the genus and "Daffodil" is the English name, either name is technically correct. Daffodil is preferred, except for scientific writings. Jonquils comprise one of the twelve official daffodil divisions recognized by the English Royal Horticultural Society and the American Daffodil Society, so jonquils are daffodils but most daffodils are not jonquils. Usually, jonquil species and hybrids are characterized by several yellow flowers, strong scent and rounded foliage. The hybrids are confined to Division 7 and the term "Jonquil" should be applied only to daffodils in Division 7 or species in Division 10 known to belong to the jonquil group. Hybrids created and named by man are called cultivars, distinguishing them from those species and hybrids originating in the wild. Species daffodils are plants originating in the wild having common attributes.



They will come "true" from seed. They are lumped together in Division 10 of the official classification system. Some have been given common names, while others are identified only by botanical nomenclature. All are considered to be wild forms, even though commercially propagated as cultivars.

Botanists differ in their opinions, but there are at least 25 species, some with a great many different forms, plus natural hybrids. There are thousands of named and registered daffodils included in the International Daffodil Checklist, published by the Royal Horticultural Society in England. The golden yellow King Alfred cultivar and its derivatives are most numerous and recognized by the general public. Daffodil breeders are constantly creating new hybrids.

Standing among daffodils in bloom on a beautiful Spring day provides both adrenalin and balm for the spirit. Sight and smell are exhilarating sensations announcing the rebirth of Mother Earth.

Worldwide, daffodil lovers look forward with great anticipation to the arrival of the first early blooms.

Daffodil culture is not difficult. They are relatively pest and disease-free. They contain alkaloids which are poisonous to rodents and deer. They are forgiving of many management errors, except planting in wet, soggy, heavy soils. If grown in good soil, they do not require heavy fertilization. Intelligent application of the insights offered herein can make the difference between mediocre and outstanding results.

Daffodil *Actaea* will tolerate poor drainage.

Plant life, growth and reproduction are governed by essential factors of soil, temperature and light. Also important are physical structure of the soil, its nutrient content, moisture and its retention and drainage, porosity and aeration, ability to physically support the plant, and its content of clay and other components.

Temperature must be within tolerable limits for plant life.



Temperature variations are involved in control of dormancy, vegetative and floral initiation. Light intensity and duration are controlling factors in photosynthesis, food storage and floral initiation.

Quantitatively, the macronutrients calcium (Ca), nitrogen (N), phosphorus (P) and potassium (K) are of greatest concern relative to soil fertility. Very small amounts of numerous other micronutrients (trace elements) are also essential to support plant life.

### Compost

Good compost is a brown gold treasure to the caring gardener. It looks good! It smells good! It feels good! It becomes nature's magician when allowed to nurture the plant world.

Rich humus-bearing compost should be used generously. When mixed with soil, compost improves water retention and oxygenation. Pore space and nutrient reserves are increased.

Compost is created from a great variety of biodegradable mulching materials which have been decomposed by synergistic actions of aerobic, anaerobic and thermophilic microorganisms, beneficial insects and earthworms, plus optional additives. Aerobic organisms can live, work and reproduce only in the presence of oxygen. Anaerobic organisms do not require oxygen. Thermophilic microbes function at high temperatures, such as may be found near the center of an active compost pile. All types may be simultaneously present, complementing one another in different parts of the same pile. Microbes are transported throughout the piles as hitchhikers aboard insects and earthworms. They also move freely in trickling water. Any insect capable of breaking down dead fibrous plant material is considered to be beneficial for that time and place. Heat, up to 150° F. or higher, is generated by activity of thermophilic microorganisms during the decomposition process. Temperatures maintained at these levels result in thermal destruction of most plant pathogens, one of the important benefits of composting.

*Compost should not be used until the temperature drops below 100° F.*

*At Merrill Farm large compost piles are partially mixed as layers of composting materials are added during buildup. Completed piles of 20-30 tons are then left undisturbed for two years or longer before being opened, when the finished compost is blended with peat moss and natural fertilizers before surface application or mixing into the beds. The addition of fertilizer to compost reinforces its nutritional power. Ingredients in the compost piles include mushroom compost, manure, sawdust, peat moss, green hay, dried whey, urea (high N), 10-20-20 agricultural fertilizer [10% nitrogen (N), 20% phosphorus (P), 20% potassium (K)], triple superphosphate (45% P), gypsum, ground limestone, micronutrients (trace elements), coarse sand, rich topsoil as inoculum, plus earthworms.*

*Sand aids granulation, improves texture and adds body to the mixture.*

*Commercial compost "starters" are not utilized because the necessary organisms are already widely dispersed naturally and are present in the topsoil used as inoculum. Discarded permeable carpeting covers the piles to shed excessive rainfall, conserve moisture and prevent weed growth. Old bedsheets, blankets or commercially available permeable mulching paper could also be used for this purpose. Compost should be kept moist, but not saturated. Runoff should be avoided. By design, the piles contain substantial amounts of absorbent peat moss which retains moisture and reduces runoff.*

*The described system is relatively large and complex with a two year minimum elapsed time before use. This extended period of time is necessary because the piles are not aerated by turning. As this is written there is on hand a five year supply of compost (35-40 tons) and home mixed fertilizer (3000 lbs.).*



Other systems designed for small home gardens, utilizing yard and garden waste and kitchen scraps, with frequent turning and aeration, can produce limited amounts of excellent quality compost within 30 days. Meat scraps attract animals and should not be used unless composting is done in enclosed bins or containers. Feces of pets should not be used in home garden composting.

In successfully making compost, it must be remembered that a ratio of approximately one part nitrogen to thirty parts carbon in the compost ingredients must be achieved. Grass clippings have the correct proportions and will make excellent compost without additives. Peat moss, sawdust and leaves are low in nitrogen, therefore they must be mixed with other higher nitrogenous materials and /or be supplemented by such additives as chicken manure, fishmeal, processed sewage sludge, cottonseed meal, soybean meal or chemical forms of nitrogen in commercial fertilizers. Sawdust has a ratio of nitrogen to carbon of 1:500, leaves 1:50.

## Culture of Daffodils

### Soil Preparation

In locations where heavy soils and poor drainage prevail, raised beds are essential to achieve maximum performance from daffodils. Raised beds are not necessary when planting in light, well-drained soils. Soil should be well-drained and possess high organic matter (humus) content which may be provided by inclusion of well-rotted manure, compost and peat moss. Neither fresh sawdust nor "hot" compost should be used. Leaves should be used only after decomposition. Excellent commercial products derived from city sewage (example, Milorganite) are available to supplement or substitute for compost. Clay soils may be improved by the addition of coarse sand and gypsum, a soil conditioner which improves porosity by causing clumping of clay molecules, thus opening channels for movement of air and water. Gypsum provides calcium but does not alter pH.

Hydrogen-ion concentration, expressed as pH, is a numerical measurement of soil acidity or alkalinity, 7.0 being neutral. Lower numbers are acid, higher numbers are alkaline. Soil tests may be made with do-it-yourself kits, by commercial laboratories or college extension services. Tests can be made for pH, nitrogen (N), phosphorous (P), potassium (K) and minor elements. Specific fertilizer recommendations may be calculated from these results. Soil acidity is correctable by application of ground limestone. If planting in sandy soil or sandy clay loam that drains well, the addition of organic matter improves nutrient and moisture retention.

The presence of a large earthworm population is an indication of fertile soil with good organic matter content.

A tiller is a great piece of labor-saving equipment and does soil blending much more thoroughly than can be accomplished by hand mixing. However, a word of caution is in order relative to tilling heavy soils.

Prolonged excessive use of a tiller may beat the soil into such fine particles that porosity and oxygenation are impaired. New planting beds should be prepared two to three months before planting and tilled weekly to kill weeds. Weeds and sod should be dug out and removed from the planned bed location. New raised beds should be built eighteen to twenty-four inches above ground level to provide a settled height of nine to twelve inches. It is especially desirable to mulch unsettled first year beds.

Bed edging should be done in a manner which does not promote erosion. Plant identification markers add interest and are essential for enthusiasts. Reasonable work space should be planned among the rows and planting sites.

### **Bulb Selection**

Most commercially grown daffodils are propagated in England, Holland and our Pacific Northwest. Bulbs are classified according to size.



Several different systems are in use, making the whole matter very confusing. Bulbs may be described by measurement in inches or centimeters, by weight, by various descriptive adjectives, or by the Dutch DN (double-nose) system. DNI means the largest bulbs, which may produce three blooms. DN II are smaller and may produce one or two flowers. DN III are not double-nosed but round and will produce one stem. "Topsized" is supposed to mean the largest bulbs produced by that particular variety. It may not necessarily be DNI. Some varieties produce only ovoid (round) bulbs which must be described by circumference measurement or by weight. "Giant" or "Jumbo" refers to flower size not bulb size. "Bedding" or "Naturalizing" sizes mean small bulbs, usually single-nosed DN III. American growers tend to avoid size descriptions. Species and miniature daffodils seldom produce bulbs with multiple noses. They are usually round and relatively small. Starting from seed, it takes a minimum of six years to grow a DNI bulb.

Unless budget constraints prohibit, largest bulbs available should be planted. Doubled-nose bulbs will provide two or three flowers instead of just one. Large bulbs produce large blooms. To reduce possibility of spreading disease, soft or damaged bulbs should be incinerated, never planted. "Bargain" bulbs should be avoided. Beds should be located in full sun or light shade. Pink and red cupped varieties show more intense and longer-lasting color when grown in semi-shade. Cool, wet weather in the Spring will extend the period of bloom. Bulbs originating in distant places require time for acclimatization, therefore the probability of first year late blooming should be anticipated. Some daffodils change color. Whites may open pale yellow, pinks may open yellow-orange, etc.

Folklore holds that most daffodils require a period of cold weather with three to four months of 35°-40° temperature. However, some varieties survive in the deep South without special cooling treatment.



There are extensive plantings in Northern Florida where representatives of Divisions II, VI, VII, VIII and X are being grown very successfully. Paperwhite does very well in warm climates such as Southern California and coastal areas of the Carolinas as well as being an excellent selection for indoor potting in the North. Sellers of bulbs provide information relative to cold hardiness and heat tolerance.

## Planting

Planting is an enjoyable experience. Feel and smell the Good Earth! Visualize the latent beauty hidden in each bulb waiting to be coaxed forth when the warmth of Spring beckons. As a nurturer of Daffodils you become Nature's Artist. The trowel is your brush. Mother Earth is your canvas.

In the past, conventional wisdom decreed that daffodils should not be planted around the base of pine, spruce or other acid loving trees or shrubs.

Cinasta - Prof. Einstein - Delta - Pheasant's Eye - Eastern Dawn - Actaea - Fortune - Petit  
 Accent - Ice King - Carlton - Jack Snipe - Ice Follies - Ken's Favorite - Dutch Master - Lilac  
 Replete - New Day - Stainless - Oryx - Tuthankhamun - Pink Declaration - Unsurpassable  
 Curtain - Cheerfulness - Square Dancer - Sir Winston Churchill - Seadream - King Alfred -  
 Fortissimo - Violetta - Saloma - White Lion - Prof. Einstein - Alabaster - Pheasant's Eye  
 Petit Four - Erlicher - Marieke - Janline - Accent - Goblet - Carlton - Hilarity - Ice Follies  
 Manon Lescaut - Geranium - New Generation - Replete - Orange Blossom - Stainless - Pink  
 Size - Unsurpassable - Rosy Wonder - White Ideal - Sun Pink - Cheerfulness - State Fair - Sir  
 King Alfred - Unique - Mt. Hood - Verona - Fortissimo - Wishing Well - Saloma - Am  
 Pheasant's Eye - Copperfield - Actaea - Drongo - Petit Four - Erifrose - Marieke - Flight  
 Perfection - Ice Follies - Highfield Beauty - Inca - Dutch Master - Jonnie Walker - Geranium  
 Stainless Monal - Tuthankhamun - Outer Space - Unsurpassable - Pure Joy - White Ideal  
 Gem - Sir Winston Churchill - Suede - King Alfred - Tripartite - Mt. Hood - Vertex - Fortis  
 Einstein - Angel - Pheasant's Eye - Bridal Crown - Actaea - Cool Flame - Petit Four  
 Splendor - Accent - Foundling - Carlton - Gold Beach - Ice Follies - Hillstar - Dutch Maste  
 Straus - Replete - Kerry Gold - Stainless - Love Call - Tuthankhamun - Malvern City - Or  
 White Ideal - Repose - Cheerfulness - Solo - Sweet Music - King Alfred - Trevithian - Mt. Ho  
 Saloma - Al Dawning - Prof. Einstein - Beau Monde - Pheasant's Eye - Credo - Actaea -  
 Marieke - Grace Note - Accent - Holland Sensation - Carlton - Independence Day - Ice F  
 Kitten - Geranium Lemon Tarts - Replete - Mondragon - Stainless - Orangery - Tuthankha  
 Ring of Fire - White Ideal - Step Forward - Cheerfulness - Serola - Sir Winston Churchill -  
 Hood - Vice President - Fortissimo - White Empress - Saloma - Angkor - Prof. Einstein - B  
 Actaea - Dazzler - Petit Four - El Capitan - Marieke - Fidelity - Accent - Galactic - Carlton  
 Dutch Master - Single Jonquil - Geranium - Loth Lorian - Replete - Maya Dynasty - Sta  
 Primeur - Unsurpassable - Rainbow - White Ideal - Stratosphere - Cheerfulness - Tricolet -  
 Alfred - Affable - Mt. Hood - Bravoure - Fortissimo - Confection - Salome - Dolly Mollins  
 Pheasant's Eye - Flower Record - Actaea - Gold Coin - Petit Four - Honey Bird - Marieke  
 Lemon Sprite - Carlton - Moonlight - Ice Follies - Oakland - Dutch Master - Paradise - Ge  
 Sails - Stainless - Tranquil Morn - Tuthankhamun - Widgeon - Unsurpassable - Avalon -  
 Cheerfulness - Dawnblush - Sir Winston Churchill - King Alfred - Easter Bonnet - Mt. Hood  
 Salome - Hawara - Prof. Einstein - Irresistible - Jonquilla - Pheasant's Eye - Lipstick - J  
 Odam - Marieke - Pink Plantation - Accent - Rose Caprice - Carlton - Sandra - Ice Follies  
 Geranium - Altruist - Replete - Barbet - Stainless - Canisp - Tuthankhamun - Dainty Mis  
 Ideal - Flower Waltz - Cheerfulness - Golden Ducat - Sir Winston Churchill - Honolulu - Ki  
 Lemon Beauty - Fortissimo - Mon Cherie - Salome - Orange Progress - Prof. Einstein - Pink  
 May - Sun Disc - Actaea - Treasure Valley - Petit Four - White Marvel - Marieke - Art  
 Carlton - Cedarhills - Ice Follies - Distant Drums - Elixir - Dutch Master - Fragrant Rose  
 Heron - Stainless - Impala - Tuthankhamun - Lemon Brook - Unsurpassable - Mol  
 Cheerfulness - Pink Perfume - Sir Winston Churchill - Recital - King Alfred - Suave - Mt. H  
 Salome - Alamo - Prof. Einstein - Buncloody - Pheasant's Eye - Cherish - Actaea - Doak's  
 Marieke - Filly - Accent - Gaily Glad - Carlton - Lapwing - Ice Follies - Mystique - Dutch M  
 Pink Swan - Replete - Rapture - Showbiz - Stainless - Tresamble - Tuthankhamun - W  
 Unsurpassable - Euphoric Grace - White Ideal - First Formal - Cheerfulness - Golden Au  
 Manly - King Alfred - Orchard Place - Mt. Hood - Painted Desert - Red Aria - Fortissi  
 Prof. Einstein - Winter Waltz - Pheasant's Eye - Amor - Actaea - Binkie - Petit Four - Cock  
 Empress of Ireland - Carlton - February Gold - Ice Follies - Green Gold - Dutch Master - L  
 Replete - Oregon Beauty - Stainless - Peaches and Cream - Tuthankhamun - Red Rascal - U  
 Toronto - Cheerfulness - Woodland Prince - Sir Winston Churchill - Afterthought - King J  
 Colorful - Fortissimo - Decoy - Salome - Emphasis - Prof. Einstein - Flycatcher - Pheasant's  
 Petit Four - Martinette - Marieke - Pride of Portugal - Red Hill - Accent - Sentinel - Carl  
 Cher - Dutch Master - Broomhill - Geranium - Cool Crystal - Replete - Duke of Win  
 Tuthankhamun - February Silver - Unsurpassable - Gull - White Ideal - Loch Hope - Chee  
 Churchill - Punchline - King Alfred - Royal Orange - Mt. Hood - Star Trek - Fortissimo  
 Einstein - Darnett Dreaming - Pheasant's Eye - Christmas Valley - Actaea - Downy



## ROYAL HORTICULTURAL SOCIETY SYSTEM OF CLASSIFICATION

For garden purposes, daffodils are classified in twelve divisions. Division number indicates form, while letters indicate color. For example, 2 Y-YYO is a large-cupped daffodil, all yellow except for an orange rim; 1 W-Y is a trumpet daffodil with white perianth (petals) and yellow corona (trumpet).



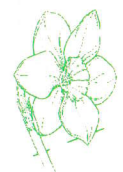
**Division 1**  
*Trumpet daffodils of garden origin*  
One flower to a stem; corona

(trumpet) as long as, or longer than, the perianth segments (petals)



**Division 2**  
*Large-cupped daffodils of garden origin*  
One flower to a

stem; corona (cup) more than one-third but less than equal to the length of the perianth segments (petals)



**Division 3**  
*Small-cupped daffodils of garden origin*  
One flower to a stem; corona

(cup) not more than one-third the length of the perianth segments (petals)



**Division 4**  
*Double daffodils of garden origin*  
One or more

flowers to a stem, with doubling of the perianth segments or the corona or both



**Division 5**  
*Triandrus daffodils of garden origin*  
Characteristics of *N. triandrus*

predominant: usually two or more pendent flowers to a stem; perianth segments reflexed



**Division 6**  
*Cyclamineus daffodils of garden origin*  
Characteristics of *N. cyclamineus* clearly evident:

one flower to a stem; perianth segments significantly reflexed; flower at an acute angle to the stem, with a very short pedicel (neck)



**Division 7**  
*Jonquilla daffodils of garden origin*  
Characteristics of the *N. jonquilla* group predominant:

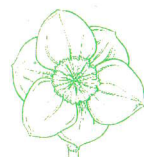
usually one to three flowers to a rounded stem; leaves narrow,

dark green; perianth segments spreading, not reflexed; flowers fragrant



**Division 8**  
*Tazetta daffodils of garden origin*  
Characteristics of the *N. tazetta* group

predominant: usually three to twenty flowers to a stout stem; leaves broad; perianth segments spreading, not reflexed; flowers fragrant



**Division 9**  
*Poeticus daffodils of garden origin*  
Characteristics of the *N. poeticus* group

predominant: usually one flower to a stem; perianth segments pure white; corona usually disc-shaped, with a green or yellow center and a red rim; flowers fragrant



**Division 10**  
*Species, wild variants and wild hybrids*  
All species and

wild or reputedly wild variants and hybrids, including those with double flowers



**Division 11**  
*Split-corona daffodils of garden origin*  
Corona split—

usually for more than half its length

a) **Collar Daffodils**  
Split-corona daffodils with the corona segments opposite the perianth segments; the corona segments usually in two whorls of three

b) **Papillon Daffodils**  
Split-corona daffodils with the corona segments alternate to the perianth segments; the corona segments usually in a single whorl of six

**Division 12**  
*Miscellaneous daffodils*  
All daffodils not falling into any one of the foregoing divisions



ng Alyrea - White Magnolia - Mt. Hood - Amberglow - Fortissimo - Butterfly - Saloma  
 asant's Eye - Eastern Dawn - Actaea - Fortune - Petit Four - Coblet - Marieke - Hoopoe  
 rpe - Ice Follies - Ken's Favorite - Dutch Master Lilac Delight - Geranium - Meadowlake  
 x - Tuthankhamun - Pink Declaration - Unsurpassable - Queens Court - White Ideal - Re-  
 cer - Sir Winston Churchill - Seadream - King Alfred - Touch of Lemon - Mt. Hood - Urban  
 fite Lion - Prof. Einstein - Alabaster - Pheasant's Eye - Berlin - Actaea - Cherry Bounce  
 nline - Accent - Goblet - Carlton - Hilarity - Ice Follies - Laurens Koster - Dutch Master  
 eneration - Replete - Orange Blossom - Stainless - Pink Valentine - Tuthankhamun - Quee-  
 - White Ideal - Sun Pink - Cheerfulness - State Fair - Sir Winston Churchill - Tuesdays Child  
 - Verona - Fortissimo - Wishing Well - Saloma - Ambergata - Prof. Einstein - Bit O Gold  
 ea - Drongo - Petit Four - Erlrose - Marieke - Flight - Accent - Kiev - Carlton - Golden  
 auty - Inca - Dutch Master - Jonnie Walker - Geranium - King Size - Replete - Lemon Snow  
 nder Space - Unsurpassable - Pure Joy - White Ideal - Queen City - Cheerfulness - Radian  
 - King Alfred - Tripartite - Mt. Hood - Vertex - Fortissimo - Wishing Well - Saloma - Prof.  
 Bridal Crown - Actaea - Cool Flame - Petit Four - December Bride - Marieke - Earl-  
 lton - Gold Beach - Ice Follies - Hillstar - Dutch Master - Ivy League - Geranium - Johan-  
 nless - Love Call - Tuthankhamun - Malvern City - On Edge - Unsurpassable - Polar Ice  
 Soló - Sweet Music - King Alfred - Trevithian - Mt. Hood - Vertex - Fortissimo - Whirlwa-  
 em - Beau Monde - Pheasant's Eye - Credo - Actaea - Daydream - Petit Four - Festivity  
 olland Sensation - Carlton - Independence Day - Ice Follies - Jolly Roger - Dutch Master  
 eplete - Mondragon - Stainless - Orangery - Tuthankhamun - Pink Charm - Unsurpassable  
 rward - Cheerfulness - Serola - Sir Winston Churchill - Apostle - King Alfred - Texas - M-  
 White Empress - Saloma - Angkor - Prof. Einstein - Birma - Pheasant's Eye - Coral Light  
 ipitan - Marieke - Fidelity - Accent - Galactic - Carlton - Honey Pink - Ice Follies - Ice Rim-  
 anium - Loth Lorian - Replete - Maya Dynasty - Stainless - Old Satin - Tuthankhamun  
 - White Ideal - Stratosphere - Cheerfulness - Tricolet - Sir Winston Churchill - Whoa - Kin-  
 ure - Fortissimo - Confection - Salome - Dolly Mollinger - Prof. Einstein - Edward Heath  
 actaea - Gold Coin - Petit Four - Honey Bird - Marieke - Irish Coffee - Accent - Juanita  
 - Ice Follies - Oakland - Dutch Master - Paradise - Geranium - Romance - Replete - Silke  
 uthankhamun - Widgeon - Unsurpassable - Avalon - White Ideal - Bellavista - Chapeau  
 ton Churchill - King Alfred - Easter Bonnet - Mt. Hood - Foresight - Fortissimo - Greek Ke-  
 - Irresistible - Jonquilla - Pheasant's Eye - Lipstick - Actaea - Mockingbird - Petit Four  
 - Accent - Rose Caprica - Carlton - Sandra - Ice Follies - Thalia - Dutch Master - Warbler  
 bet - Stainless - Canisp - Tuthankhamun - Dainty Miss - Unsurpassable - Eminent - White  
 - Golden Ducat - Sir Winston Churchill - Honolulu - King Alfred - Immaculate - Mt. Hood  
 ierie - Salome - Orange Progress - Prof. Einstein - Pink Migration - Pheasant's Eye - Rose e  
 re Valley - Petit Four - White Marvel - Marieke - Artic Gold - Accent - Beautiful Dream  
 stant Drums - Elixir - Dutch Master - Fragrant Rose - Geranium - Golden Dawn - Replete  
 hankhamun - Lemon Brook - Unsurpassable - Mot Mot - White Ideal - Opalescent  
 nston Churchill - Recital - King Alfred - Suave - Mt. Hood - Toya - Fortissimo - White Owl  
 hincloody - Pheasant's Eye - Cherish - Actaea - Doak's Stand - Petit Four - Easter Moon  
 t - Carlton - Lapwing - Ice Follies - Mystique - Dutch Master - Once-in-a-While - Geranium  
 showbiz - Stainless - Tresamble - Tuthankhamun - W P's Favorite - Double Ice Follies  
 White Ideal - First Formal - Cheerfulness - Golden Aura - Lalique - Sir Winston Churchill  
 ace - Mt. Hood - Painted Desert - Red Aria - Fortissimo - Spring Tonic - Salome - Tahiti  
 asant's Eye - Amor - Actaea - Binkie - Petit Four - Cocktail - Marieke - Debutante - Accen-  
 ruary Gold - Ice Follies - Green Gold - Dutch Master - Lemon Sparks - Geranium - Monitor  
 - Peaches and Cream - Tuthankhamun - Red Rascal - Unsurpassable - Sinopel - White Ideal  
 Prince - Sir Winston Churchill - Afterthought - King Alfred - Broadway Star - Mt. Hood  
 ie - Emphasis - Prof. Einstein - Flycatcher - Pheasant's Eye - Graduation - Actaea - Lapine  
 Pride of Portugal - Red Hill - Accent - Sentinel - Carlton - Tropic Isle - Ice Follies - Arch-  
 - Geranium - Cool Crystal - Replete - Duke of Windsor - Stainless - Early Sensation  
 Unsurpassable - Gull - White Ideal - Loch Hope - Cheerfulness - Molten Lava - Sir Winsto  
 t - Royal Orange - Mt. Hood - Star Trek - Fortissimo - Toucan - Salome - Aurum - Pro

Many evergreen trees require an acid soil,  
 which is not compatible with the supposed  
 near neutral pH needs of bulbs. Actually,  
 while pH levels of 6.5 to 7.0 are preferred,  
 daffodils are tolerant of more acid  
 conditions and are known to grow in open  
 pine forests and in company with  
 rhododendrons and azaleas where they  
 receive at least a half day of sunlight.

Planting should be done in early Fall,  
 mid-September through October, at the  
 latitudes of Northern Pennsylvania, New  
 York and New England. Later Fall  
 plantings are appropriate for more  
 southern locations and the Pacific Coast.  
 Bulbs should be planted at a depth of six to  
 nine inches for large bulbs, with more  
 shallow planting for smaller bulbs. Noses  
 should point upward when planting.  
 Horizontal spacing should be six inches or  
 more apart. Soil should be maintained in a  
 moist but not waterlogged condition.



While daffodils may survive transplanting at times other than during the dormant stage, such procedure is highly undesirable and should be done only as an unavoidable last resort. When unseasonable transplanting takes place tiny feeding rootlets extending twelve inches or more outward from the bulb base are broken off, creating great stress and throwing the plant into a survival mode.

### *Fertilizing*

As conscientious gardeners, we need to be concerned with the environment, health and welfare of the living organisms in soil. Their incredibly complex interdependent activities make plant and animal life on earth possible. When we fertilize we are really feeding microbes, insects and earthworms. They in turn convert the raw fertilizing materials into forms utilizable by plant life. All must be soluble in water to be available to plants.

If we possessed all the knowledge in the universe, we probably could not describe in scientific detail, in one lifetime, everything which takes place in a cubic foot of humus-rich soil during the course of one calendar year.

The popular term "Organic" is frequently used incorrectly. For a fertilizer or other material to be truly organic it must contain hydrocarbons. The term is widely misused in situations where "Natural" would be the correct word. For instance, the minerals raw rock phosphate and glauconite (greensand) are frequently improperly referred to as "Organic" because they are "Natural" products. They are not of plant or animal origin and do not contain hydrocarbons. Bloodmeal, fishmeal, kelpmeal, bonemeal, alfalfa meal, grass clippings, leaves, grains, food wastes, manures and sawdust are examples of plant and animal products all of which contain hydrocarbons and are correctly referred to as being "Organic." Fertilizer mixtures mentioned in this manuscript include both organic and inorganic natural components.



The home-mixed fertilizers used at Merrill Farm consist of kelpmeal (seaweed), bloodmeal, dried whey, fishmeal, crabmeal, wheat bran, soybean meal, bonemeal, raw rock phosphate, greensand, sulfate of potash, gypsum, chelated iron, chelated zinc, chelated manganese, boron, copper and other micronutrients (trace elements). Chelation is a process which makes minerals more readily available for absorption by the plant. A low nitrogen mix is used for planting with bulbs, a higher nitrogen mix for blending with compost. Home-mixing of relatively expensive natural fertilizer ingredients represents a personal preference over less costly inorganic commercial products available.

Unless the basic soil is fertile, every bulb planted or transplanted should have a heaping tablespoon of a complete bulb food thoroughly mixed into the root zone below, but not in direct contact with the bulb. Excessive fertilization should be avoided. One or two inches of soil should be placed between the base of the bulb and the fertilized deeper soil level. Bonemeal is not a complete plant food.

Long-term composting can provide time for microbial degradation of chemical (inorganic) fertilizers prior to incorporation into the beds. Newly planted bulbs should be watered.

Plant nutrition should be a never-ending concern. Bulbs not fertilized or improperly fertilized will not reach their full genetic potential for bulb and bloom size and will multiply more slowly than those more intelligently managed. Daffodils require low levels of nitrogen (N), medium levels of phosphorus (P), and relatively large amounts of potassium (K) plus micronutrients (trace elements), dispersed in soil with a high humus content.

Phosphorus is a key ingredient in plant food. Multiple sources are desirable, such as colloidal phosphate, bonemeal, raw rock phosphate (slow release). Multiplicity of carriers provides more prolonged and staggered release of food nutrients than is possible from a single source. In locations where the soil is known to be low in magnesium, dolomitic limestone may be applied to correct the deficiency.



Greensand (slow release and low solubility), sulfate of potash, sul-po-mag and wood ashes are sources of potash (K). Greensand (glauconite) is mined from marine deposits located in the Delaware Valley of Southern New Jersey. It contains trace amounts of minor elements and is also valued as a soil conditioner. Sulfate of potash comes from the Great Salt Lake area in Utah.

Sul-po-mag is a combination of sulfur, potash and magnesium.

A home-mixed natural fertilizer might consist of 15 lbs. bloodmeal, 25 lbs. fishmeal, 50 lbs. kelpmeal, 50 lbs. bonemeal, 50 lbs. raw rock phosphate, 100 lbs. greensand, 50 lbs. sulfate of potash. Micronutrients are naturally present in kelp and greensand. Smaller quantities of complete commercial bulb fertilizers are available from nurseries and garden supply centers. The Espoma Company, 800-634-0603, processes and distributes natural fertilizer supplies.

In addition to surface application, old established clumps may be fed deeply by fertilizer placed in holes made by using a long screw driver or small crowbar to create openings 12-15 inches deep and 12 inches away from the outermost bulbs on the perimeter of the planting.

Magnesium sulfate (Epsom salts) broadcast on bed surfaces at a rate of one pound per forty square feet may enhance color in some daffodils.

### General Management

Mulching daffodil beds is optional, but recommended. Mulch is organic matter which may consist of peat moss, ground corn cobs, shredded bark, pine needles, straw, sawdust, shredded corn stover or compost. Spread two or three inches deep on top of the beds in late Fall, after the ground freezes, to form a porous layer of insulating ground cover. Leaves tend to mat down and are not desirable if used alone.



*They make excellent compost when shredded and mixed with other suitable materials. Like snow, mulch provides insulation keeping the soil uniformly frozen and preventing bulb damage caused by heaving and thawing due to temperature fluctuation. Mulch in excess of one inch thick should be removed in early Spring, before plants emerge.*

*The quality of peat moss varies greatly depending upon its point of origin. The highest quality peat moss comes from New Brunswick, Canada. When used alone as mulch, peat moss and sawdust form water-repellent surface crusts which must be manually broken up to allow penetration of rainfall. A similar result may be achieved by sprinkling or spraying with water to which has been added a small amount of household detergent.*

*Bed maintenance should be done in the Fall, when no foliage is above ground. Fall feeding of bulb food mixed with a one inch layer of compost, well-rotted manure or peat moss top dressing on established beds is more effective than Spring top dressing.*

*Bulbs actively feed in the Fall in preparation for Spring blooming.*

*Spring bed management should concentrate on removal of any excess mulch and debris accumulated during the Winter, done well before the plants burst forth in all their exuberant glory. Supplementary Spring feeding is acceptable practice if done very early, before plant emergence, but should not be in lieu of the more crucial Fall fertilization. If fertilization in the Spring is desired, an additional option might be application of a liquid fertilizer immediately following deadheading. Those who seek adventure through experimentation might enjoy trying a biocatalyst or foliar feeding at this stage of the plant cycle. Water requirements of the rapidly growing plant are high in the spring, so natural rainfall should be augmented as needed.*

*Mother Nature provides each bulb with its own timetable.*

*Impatient and inexperienced gardeners who insist on "helping" the plants to break ground in the Spring do a disservice and inflict abrasions which, while not visible to the naked eye, nevertheless exist and have a negative impact on emerging plants.*

*For aesthetic reasons, at the first indication of fading, flowers should be plucked (deadheaded). This means snapping the flower off at the neck while leaving the stem undisturbed. Deadheading also results in energy savings with increased bulb size in some plants. Food and energy which would have been used for hull and seed production is redirected to the bulb for storage and future growth.*

*Leaves should not be cut, tied or braided but allowed to fully mature and die naturally. They should be removed only when completely dead, two or three months following bloom. As a disease control measure, space occupied by a dead bulb should not be opened or replanted immediately.*

*The small hole left when dead leaves are removed should be raked over and filled with soil, compost or mulch to preclude insect entrance. During the hot Summer months, beds may be overplanted or mulched to conserve moisture, aid in weed control and maintain uniform soil temperature. Only very shallow-rooted surface-covering plants, such as alyssum or miniature marigolds should be planted directly above the bulbs for Summer ground covering blooms on the beds. Deep-rooted plants may disturb the bulbs and compete for water and nutrients as the bulbs commence early Fall growth. This does not rule out adjacent plantings. Daffodils do not demand constant watering during the dormant period when leaves are dead.*

### *Weed Control*

*Maize (corn) gluten meal (60% protein), a by-product of corn syrup production, is a non-toxic (still experimental and not fully proven) pre-emergent herbicide.*



*It may be applied to the surface of bulb beds in very early Spring to assist in weed control. Application must precede weed seed germination. It is claimed to disrupt the germination of seeds without causing harmful effects on the bulbs, beneficial insects, earthworms, animals or humans. Eventual decomposition results in residual nitrogenous fertilizing material remaining in the soil. It may be purchased from Gardens Alive, (812) 537-8650, or feed mills. Caution should be exercised if commercial weed killers are used. Some well-advertised selective herbicides are not toxic to monocots. Daffodils are monocots. Read the labels!*

### *Transplanting*

*Daffodils may be dug and divided as desired during the dormant period in late Summer, after the foliage dies. When transplanting, care should be taken to avoid cutting or bruising bulbs. Damaged bulbs should be discarded. Bulbs should be allowed to separate naturally, never broken apart.*

*If possible, replanting should be done immediately, otherwise the bulbs should be cleaned and placed in mesh bags or wire containers and stored in dry cool shade with free circulation of air. A fan may be used to thoroughly dry exterior bulb surfaces. Bulbs may be dusted with a fungicide as a precautionary disease control measure.*

*Bulbs may be left in their beds to multiply naturally for many years, without need for disturbance. Dividing is optional. When blooms diminish in size, it becomes time to consider lifting and division and/or fertilization.*

### *Forcing*

*Daffodils can be persuaded to bloom out of season by a process known as "forcing." Potted bulbous plants which are sold by florists at Christmas, Easter and other times have been forced. The procedure involves potting in the Fall, then holding in a dark cool environment.*

*At a time calculated for blooming on the target date, the pots are brought into lighted warmer surroundings to initiate the necessary growth for blooming at the desired time. Bulbs which have been forced can be replanted outdoors and may recover in two years, if they are varieties suited to the location.*

### *Summary*

*Composting should be an integral part of every daffodil growing program. It provides easy and inexpensive means for effective soil improvement. Coarse sand and gypsum are useful in conditioning heavy soils. With the notable exception of Actaea, daffodils deeply resent "wet feet." Be cognizant and appreciative of the roles played by microbes, insects and earthworms. Daffodils require a minimum of one-half day of sunlight. Filtered light is desirable for pink and red cupped varieties.*

*Largest bulbs available should be obtained from reputable dealers. Soft bulbs should be incinerated, never planted. Raised beds are essential, unless the planting sites are naturally well drained. In advance of the planting date, the planting area should be tilled several times. Unless planting in fertile soil, a balanced bulb fertilizer should be placed beneath, but not in direct contact with the bulbs. Bonemeal is very useful, but used alone it is not a balanced or complete fertilizer. Newly planted bulbs should be in direct contact with good soil or a mixture of aged compost and sand - not touching fertilizer, manure or peat moss. Planting depth should be six to nine inches for large bulbs, proportionately less for smaller bulbs. Horizontal spacing should be six inches or more.*

*On established beds, Fall top dressing is preferred. A one inch mixture of ripe compost and bulb food provides nutrients for Fall and early Spring growth. If nature fails, plants should be watered during the pre-bloom stage when moisture requirements are high.*



Remove accumulations of Winter debris and excess mulch early in the Spring. Refrain from "helping" the plants break ground. Minimize disease spread by not digging up dead bulbs. Leave them lie! If flowers are to be cut, take only the blooms and stems. The leaves are needed for continued growth of the bulb. Fading blooms should be deadheaded. Allow the leaves to die naturally, without cutting or braiding. Overplant only with very shallow rooted plants. Transplant carefully. Discard damaged bulbs. Allow bulbs to separate naturally. Never break them apart. Transplanting is an optional exercise, necessary only when bloom size diminishes. Many naturalized plantings have not been lifted for years.

Most bulb suppliers provide instructions pertaining to planting and care. Review before planting. Beautiful daffodils are among the easiest to grow of all cultivated plants. If you are a casual gardener, don't fret the minor details, just provide the basic needs, and watch them grow.

If, on the other hand, you are a gardener dedicated to the release of the maximum genetic potential within your bulbs - then adopt and implement the fine points explained herein. You may even wish to consider becoming an exhibitor in flower shows. Whatever your choice, relax, love and appreciate every minute of it!

The world is God's Garden. When we nurture a profusion of daffodils we pay tribute and glorify the Architect of the Universe by beautification of His Temple.

ENJOY !!!!!

Reader comments welcomed

### Recommended Bulb Sources

*Grant E. Mitsch Novelty Daffodils*

*P O Box 218, Hubbard, OR 97032*

*Dutch Gardens*

*P O Box 200, Adelphia, NJ 07710*

*Wayside Gardens*

*1 Garden Lane, Hodges, SC 29695*

*Breck's*

*6523 North Galena Rd., Peoria, IL 61632*

*Bonnie Brae Gardens*

*1105 SE Christensen Road, Corbett, OR 97019*

### Recommended Reading

*Daffodils for American Gardens*

*by Brent and Becky Heath*

*Elliot and Clark Publishing*

*Washington D. C.*

### Recommended Membership

*American Daffodil Society*

*1686 Grey Fox Trails*

*Milford, OH 45150*

*Mary Lou Gripshover, Executive Director*

*Phone 513-248-9137 Fax 513-248-0898*

*Notes*