
KLYBECK ISLAND:
HERB HARBOR



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INTRODUCTION





Location in Basel

The site (marked with red background) is Klybeck Island.

It locates by the Rhine and near to the trinational border and belongs to Klybeck Quatier in Basel Stadt.

Basel Stadt and Surroundings 1:50000



Siegfriedkarte **1880** 1:25000

Source: www.swisstopo.ch



Siegfriedkarte **1890** 1:25000

Source: www.swisstopo.ch

Transformation of Klybeck Island

The site used to be an island until the end of 19th Century. Due to rapid urban development of Basel Stadt as well as the expansion of urban settlements, the transformation of the island took place.

With gap artificially filled gradually since 20th Century, the island began to merge into mainland geographically.

The port of Switzerland use this site as harbor since 1920s and excavated two inner harbor basins afterwards. The circulation of the city developed at the same time, Dreirosenbrücke was built in 1940s.

The whole harbor area has stayed almost the same since 1940s till now.



Siegfriedkarte **1918** 1:25000

Source: www.swisstopo.ch



Siegfriedkarte **1928** 1:25000

Source: www.swisstopo.ch



Siegfriedkarte **1945** 1:25000

Source: www.swisstopo.ch



City Map **2011** 1:25000

Source: www.stadtplan.bs.ch

Site Photos



Airial View 1:10000

Source: map.google.ch

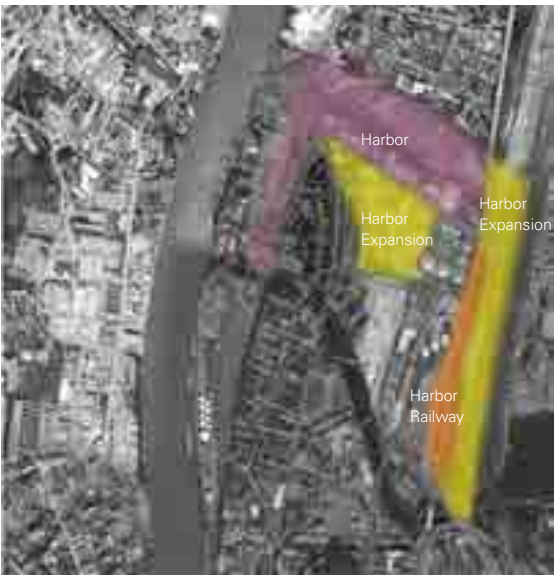
Ongoing Projects

Transformation of harbor area in city is currently a hot topic all over the world. There has been such discussion since 2003 in Basel, the only Harbor City in Switzerland.

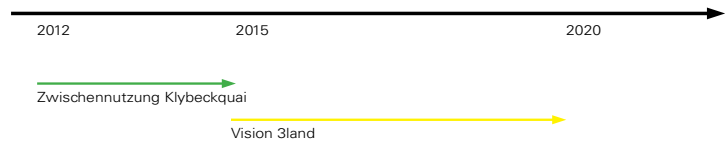
Since 2012, the harbor is finally been replanned and will be translocated. As a result, the new vision 3land of the former site comes out as well as calling for interim use proposal.



Harbor Area in 2011

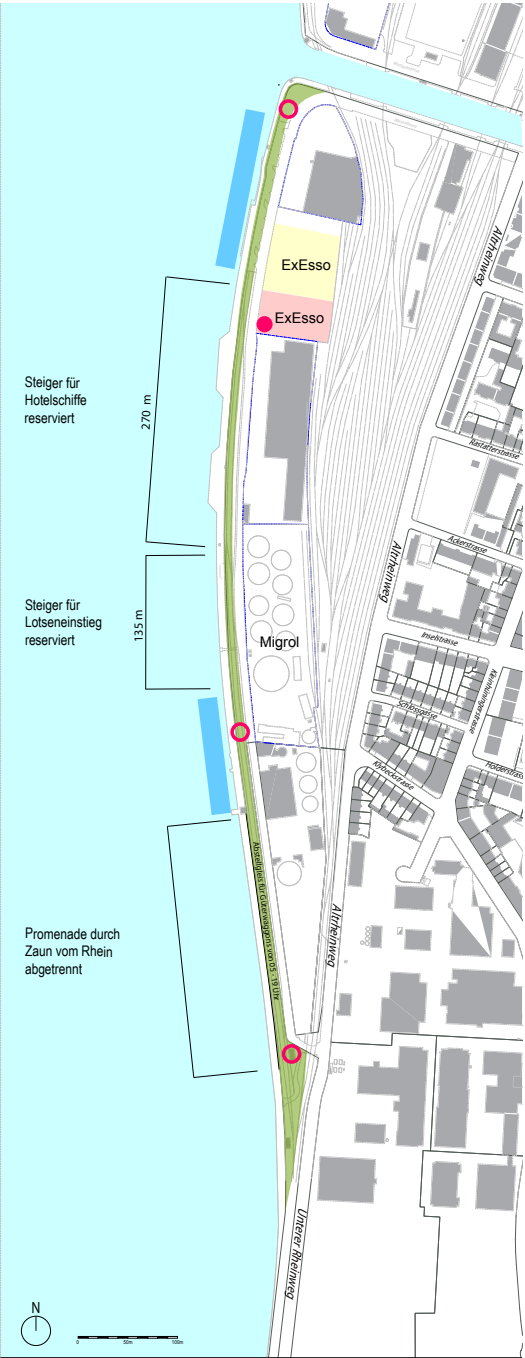


Planned Harbor Area from 2012



Different Time and Space of Intervention of Two Projects: 3land and Interim Use Klybeckquai

Interim Use Klybeckquai



Zwischennutzung Klybeckquai – Flächenangebot

- Uferpromenade
- Wasserfläche
- vord. Anschlusspunkt
- ExEsso: vermietbare Fläche
- ExEsso: periodisch nutzbare Fläche
- mögl. Anschlusspunkte

Site of Competition, Interim Use Klybeckquai
(result will be announced in June 2012)

Source: planungsamt.bs.ch

3land



Perspective, 3land



Masterplan, 3land

POTENTIAL AS INTERIM URBAN GARDEN?



Soil quality

The soil of the site in Basel is pseudogley.

This soil is with a perched water table showing redoximorphic features caused by surface water. Pseudogley are periodically wet and mottled in the topsoil and subsoil, with or without concretions and/or bleaching.

The agricultural suitability of it is limited because of its oxygen deficiency resulting from stagnating water above a dense sub-soil. Therefore, they have to be drained.

Which worth to be noticed is that due to long time industrial use, ground might be contaminated.

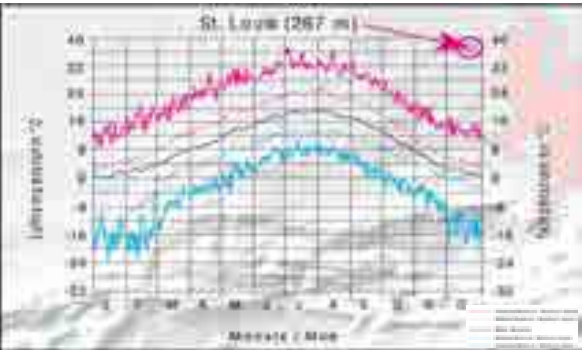


Ground at Site

Temperature*

Geographically, Basel belongs to Temperate Zone in terms of temperature AND THE YEARLY AVERAGE TEMPERATURE IS AROUND 10°C.

The average temperature is 0°C in JANUARY, 9°C in APRIL, 19°C in JULY, 11°C in OCTOBER. THE AVERAGE TEMPERATURE IN VEGETATION PERIOD (FROM APRIL TO SEPTEMBER) IS 15°C AND THE YEARLY AVERAGE TEMPERATURE IS AROUND 10°C.



Average Temperature in One Year

Source: REKLIP

Sun Exposure*

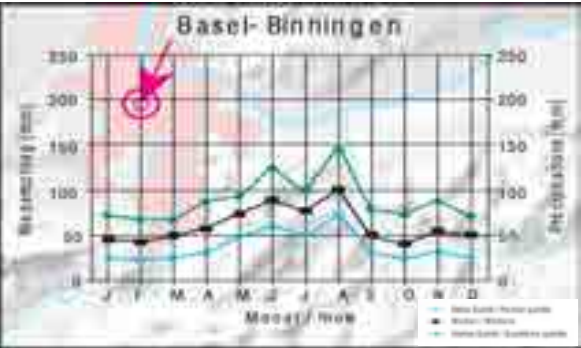
The average time of sun exposure is 5.5h/day, average strength is 3000 kwh/m².

These differ according to season, 2h/day and 800kwh/m², in January, 5h/day in April and 3600kwh/m², 7h/day in July and 5600 kwh/m², 3h/day and 2200 kwh/m² in October.

Precipitation*

The average precipitation is 720mm annually.

It changes mildly through one year, reach the climax in August and hit the bottom in December and January,



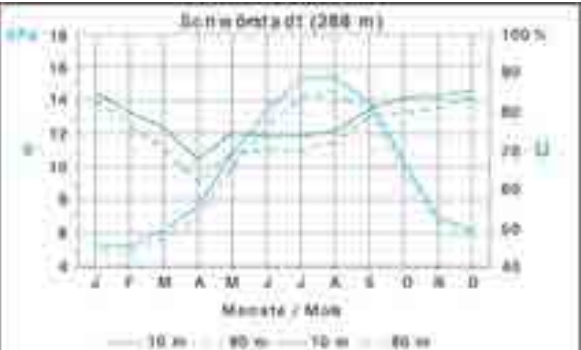
Average Precipitation in One Year

Source: REKLIP

Humidity*

The average precipitation is 720mm annually.

It changes temperately between 65% to 85% relative humidity. It peaked in December or January and valleyed in April.



Average Humidity and Air Pressure in One Year

Source: REKLIP

Summarily, the soil is not fit for plant production, if use site for agriculture, soil should be transported from other natural sites or specialized company such as Ökohum.

The climate is good for most of the edible plants.

*All data is not from the site specifically, but from the nearest climate station.



Site Plan 1:5000

Potential of Interim Use?

Site connects the settlement of Klybeck and Rhine, but used to be blocked from settlement. Major part is railway area, once the harbor translocate, it is going to be abandoned before 3land vision, ExEsso used to be a fuel oil company and has already been demolished, Migrol is also fuel oil company, at site are mainly the oil tanks for storage use which are being demolished now, estimate to be finished in Aug.2012, Rhenus, Grisard, Gondrand are logistic companies, which need to be stayed at least till 2015.

- Site: Klybeck Island
- Mainly Harbor Railway
- Existing and Staying Construction
- Demolished and Being Demolished Construction

What could 3-year interim use mean for food? Is there any food production potential in this site? Which food? Could this site become urban garden?

URBAN CULTIVATION OF HERB





Herb in a Chinese dish

Introduction

Definition of Herb

Generally, herb has two different meanings according to Cambridge Dictionary.

One is for botanically use, it means herbaceous plant, a plant lacking a permanent woody stem; regardless of its flavor, scent or other properties, and thus includes only grass-like plants and forb.

The other one is for common use, it means a type of plant whose leaves are used in cooking to give flavour to particular dishes, or which are used in making medicine.

In terms of food, here the author just take the definition of common use. Culinary used herb, specifically are food or drink additives of mostly botanical origin used for flavoring or coloring.

Features of Herb

Perishability

Fresh herb leaves are considered perishable items mainly due to extremely high generated nitrite after harvesting. If not freshly used, It should keep in the vacuum package in refrigerator. This would keep it for 3-4 days.

In order to let urban inhabitants to have fresh herbs, proximity to the city of herb production is one practical solution.



Chinese chives fresh(u.) and after two days.

Economic Value

In the city area, the shortage of usable land is always a problem. The herb production could efficiently use the land but can generate a relative high economic value, compare to other vegetables, fruits or meat production in terms of space they take and price per weight.

Moreover, the herbs takes extreme shorter time to harvest, even 10 days for certain species. Some herbs can be harvested on and off for a whole year. So it fits well for interim use.



Herb sold in Marktplatz, Basel

Visual and Olfactory Quality

Almost all the herbs provide different and pleasant visual and olfactory experiences, they have unique and elegant forms of leave as well as refreshing and fragrant smell.

Hence some herbs are used in garden or bonsai for aesthetic appreciation and some are used in cosmetic or perfume industry.



Herb as decoration in wedding

Source: westaussiewedding.typepad.com

Nutritional and Medicinal Effect

The herb is also an indispensable element in many top-class dishes as well as takeaways.

Besides the fact of garnishment and flavor, some herbs provide microelement and vitamin which is very healthy. such as basil is very rich in Vitamin K.

Herbs are regulated just like a dietary supplement, some are full of antioxidants that maintain health and slow aging. Many herbs have medicinal effect.



Herb pestled into medicinal use

Source: <http://healthxwellness.com>

Historical Aspect

Charlemagne once said “An herb is the friend of physicians and the praise of cooks.”

Man has had a long and loving relationship with herbs. Herbs have been used since prehistoric times. Ancient Romans and Greeks crowned their leaders with dill and laurel. The Romans also used dill to purify the air. In the Middle Ages, herbs were often used to help preserve meat as well as covering the rotting taste of meals that couldn’t be refrigerated.

Now the medicinal herb system is mainly based on Traditional Chinese Medicine (TCM), which can be dated back 2000 to 3000 years.

Many herbs are used differently in cuisine all over the world now and herb planting has a huge market potential.

Herb in Switerland

Though herbs have got a long history of naturally growing, for instance, idelweiss as a typical alpine herb, yet professional herb planting begins after 1900 in Switerland.

Herb planting has increased in last 30 years but is still relative small scale. Currently there are 250 hectares of herb planting land and about 200 producers, mostly small and provide organic production. Total yield is c.a. 350 ton annually.

However, herbs are also very popular and wanted in Switzerland, especially certain kinds such as basil, peppermint and sage etc. are very well sold. In order to satisfy the market demand, Switzerland import herbs from other countries, mostly in Europe.



Laurel in Ancient Greek

source: <http://www.rackcdn.com>



“An Outline Treatise of Medical Herbs,” 1578, China

sources: <http://photo.99ys.com>



Edelweiss in Switzerland

source: <http://www.agrigate.ch>

Parameters of Herb

Function

Edible



dishes/desserts



tea



wine



oil



sweets

Medicinal



Cosmetic



cream/soap



perfume



essential oil

Ornamental



Spiritual



Landscape



Recreational



Longevity

Many culinary herbs are perennials such as thyme or lavender, while others are biennials such as parsley or annuals like basil.

Mophology

Most Herbs are botanically herbs would grow to 20-90cm. Some perennial herbs are shrubs (such as rosemary), or trees (such as bay laurel), this contrasts with botanical herbs, which by definition cannot be woody plants. In terms of colour or size, every herb differs from each other.

Scent & Flavour

In terms of Scent or Taste, every herb has a unique one.

Required condition

This refers to demand on soil, water, temperature, sun exposure as well as labour work.

Economic Value

Culinary herbs are almost all very expensive in Switzerland compared to other fruits or vegetables, but there is still apparent difference among them.

Incomplete List of Culinary Herbs

Food or drink additives of mostly botanical origin used for flavoring or coloring. Fictional plants such as aglaophotis, or recreational herbs such as tobacco and marijuana, or purely medicinal or other used herbs such as valerian are not inclusive in the list. Spices which purely use the fruit, seeds or other parts than leaves of herb are also not inclusive.

List (ordered alphabetically by name)

e.g.Name (Botanical name)

Alexanders (Smyrniium olusatrum)
Alkanet (Alkanna tinctoria)
Allspice (Pimenta dioica)
Angelica (Angelica archangelica)
Anise (Pimpinella anisum)
Annatto (Bixa orellana)
Apple mint (Mentha suaveolens)
Asafoetida (Ferula assafoetida)
Asarabacca (Asarum europaeum)
Avens (Geum urbanum)
Avocado leaf (Peresea americana)

Basil, sweet (Ocimum basilicum)
Basil, lemon (Ocimum × citriodorum)
Basil, Thai (O. basilicum var. thyrsoflora)
Basil, Holy (Ocimum tenuiflorum)
Bay leaf (Laurus nobilis)
Boldo (Peumus boldus)
Borage (Borago officinalis)
Blue fenugreek, blue melilot (Trigonella caerulea)

Calendula, pot marigold (Calendula officinalis)
Camphor laurel (Cinnamomum camphora)
Canelo, Winter’s Bark (Drimys winteri)
Caraway (Carum carvi)
Carob (Ceratonia siliqua)
Catnip (Nepeta cataria)
Cassia (Cinnamomum aromaticum)
Chervil (Anthriscus cerefolium)
Chicory (Cichorium intybus)
Chives (Allium schoenoprasum)
Cicely, sweet cicely (Myrrhis odorata)
Cilantro (Coriandrum sativum)
Clary, Clary sage (Salvia sclarea)
Clove (Syzygium aromaticum)
Coriander (Coriandrum sativum)

Costmary (Tanacetum balsamita)
Cuban oregano (Plectranthus amboinicus)
Cudweed (Gnaphalium spp.)
Culantro, culangot, long coriander (Eryngium foetidum)
Cumin (Cuminum cyminum)

Dill (Anethum graveolens)

Epazote (Dysphania ambrosioides)

Fennel (Foeniculum vulgare)
Fenugreek (Trigonella foenum-graecum)
Fingerroot, krachai, temu kuntji (Boesenbergia rotunda)

Garlic chives (Allium tuberosum)
Golpar, Persian hogweed (Heracleum persicum)

Horseradish (Armoracia rusticana)
Huacatay, Mexican marigold (Tagetes minuta)
Hyssop (Hyssopus officinalis)

Indonesian bay leaf, daun salam (Syzygium polyanthum)

Jimbu (Allium hypsistum)

Kaffir lime leaves, Makrud lime leaves (Citrus hystrix)
Kencur, galangal, kentjur (Kaempferia galanga)
Keluak, kluwak, kepayang (Pangium edule)
Koseret leaves (Lippia adoensis)

Lavender (Lavandula spp.)
Lemon balm (Melissa officinalis)
Lemongrass (Cymbopogon spp.)
Lemon ironbark (Eucalyptus staigeriana)
Lemon myrtle (Backhousia citriodora)
Lemon verbena (Lippia citriodora)

Lesser calamint (Calamintha nepeta)
Licorice, liquorice (Glycyrrhiza glabra)
Lovage (Levisticum officinale)

Mahlab, St. Lucie cherry (Prunus mahaleb)
Malabathrum, tejpat (Cinnamomum tamala)
Marjoram (Origanum majorana)
Marsh mallow (Althaea officinalis)
Mastic (Pistacia lentiscus)
Mint (Mentha spp.) 25 species, hundreds of varieties
Mountain horopito (Pseudowintera colorata)
Musk mallow, abelmosk (Abelmoschus moschatus)

Nasturtium (Tropaeolum majus)
Njangsa, djansang (Ricinodendron heudelotii)
Nutmeg (Myristica fragrans)

Olida (Eucalyptus olida)
Oregano (Origanum vulgare, other spieces)
Orris root (Iris germanica, I. florentina, I. pallida)

Pandan leaf, screwpine (Pandanus amaryllifolius)
Paracress (Spilanthes acmella, Soleracea)
Parsley (Petroselinum crispum)
Perilla, shiso (Perilla spp.)

Quassia (Quassia amara)

Ramsons, wood garlic (Allium ursinum)
Rice paddy herb (Limnophila aromatica)
Rosemary (Rosmarinus officinalis)
Rue (Ruta graveolens)

Sage (Salvia officinalis)
Salad burnet (Sanguisorba minor)
Sassafras (Sassafras albidum)

Savory, summer (Satureja hortensis)
Savory, winter (Satureja montana)
Sorrel (Rumex acetosa)
Sorrel, sheep (Rumex acetosella)
Star anise (Illicium verum)
Sumac (Rhus coriaria)
Sweet woodruff (Galium odoratum)

Tarragon (Artemisia dracunculus)
Thyme (Thymus vulgaris)
Thyme, lemon (Thymus × citriodorus)

Vanilla (Vanilla planifolia)
Vietnamese balm (Elsholtzia ciliata)
Vietnamese coriander (Persicaria odorata)

Watercress (Rorippa nasturtium-aquatica)
Wild betel (Piper sarmentosum) (Southeast Asia)
Wild thyme (Thymus serpyllum)
Willow herb (Epilobium parviflorum)
Wintergreen (Gaultheria procumbens)
Wood avens, herb bennet (Geum urbanum)
Woodruff (Galium odoratum)
Wormwood, absinthe (Artemisia absinthium)

Yerba buena (Micromeria douglasii)

Zedoary (Curcuma zedoaria)

Species Study

The general selection would be 10 most common, available and main stream used culinary herbs in Switzerland, intersection of duopoly supermarkets in Switzerland(Migros and Coop), Marktplatz and Globus in Basel.



Basil



Dill



Parsley



Sage



Chive



Mint



Rosemary



Thyme



Coriander



Oregano



Basil. Genus:Ocimum/Species:O. basilicum

Basil is known as Saint Joseph’s Wort in some English-speaking countries,originally from India. Depending on the species and cultivar, the leaves may taste somewhat like anise, with a strong, pungent, often sweet smell. It grows up to 50-80 cm.



Source: <http://biolib.de>

Cultivation

Basil is very sensitive to cold, with best growth in hot, dry conditions. It behaves as an annual if there is any chance of a frost. In Northern Europe, Canada, the northern states of the U.S., and the South Island of New Zealand it will grow best if sown under glass in a peat pot, then planted out in late spring/early summer (when there is little chance of a frost). Additionally, it may be sown in soil once chance of frost is past. It fares best in a well-drained sunny spot.is ideal if available. They can be grown even in a basement, under fluorescent lights.

Planting Calendar

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Seeding												
Blooming												
Harvest												

Culinary Use

Basil is commonly used fresh in cooked recipes. In general, it is added at the last moment, as cooking quickly destroys the flavor. The fresh herb can be kept for a short time in plastic bags in the refrigerator, or for a longer period in the freezer, after being blanched quickly in boiling water. The dried herb also loses most of its flavor, and what little flavor remains tastes very different, with a weak coumarin flavor, like hay.

Basil is one of the main ingredients in pesto, a green Italian oil-and-herb sauce. Its other main ingredients are olive oil, garlic, and pine nuts.

Medicinal Use

Compounds in basil oil have potential for use in treating cancer.In addition, basil has been shown to decrease the occurrence of platelet aggregation. It is traditionally used for supplementary treatment of stress, asthma and diabetes in India.

Other Uses

Ornamental.

Yield/Price

Yield of fresh leaves per year is 1.5-2.5 kg/sqm.

Price of fresh leaves is around 11 Fr./100g, in a normal Swiss Supermarket (Migros/Coop) 14 Fr./100g, in a top-class Supermarket (Globus Delicatessa)

Price of plant is around 40 Fr./100g, together with pot, in Marktplatz Basel.

Price of processed leaves(dried) is around 36 Fr./100g, in a normal Swiss Supermarket (Migros/Coop).



Chive. Genus:Allium/Species:A. schoenoprasum

Chive is the smallest species of the edible onions. A perennial plant, they are native to Europe, Asia and North America.Allium schoenoprasum is the only species of Allium native to both the New and the Old World. It grows up to 20-30cm.



Source: <http://pharm1.pharmazie.uni-greifswald.de/>

Cultivation

Chives thrive in well drained soil, rich in organic matter, with a pH of 6-7 and full sun. Chives can be grown from seed and mature in summer, or early the following spring. Typically, chives need to be germinated at a temperature of 15 °C to 20 °C (60 °F-70 °F) and kept moist. They can also be planted under a cloche or germinated indoors in cooler climates, then planted out later. After at least four weeks, the young shoots should be ready to be planted out.

Planting Calendar

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Seeding												
Blooming												
Harvest												

Culinary Use

Chives are grown for their leaves, which are used for culinary purposes as flavoring herb, and provide a somewhat milder flavour than those of their neighbouring Allium species.

Chives have a wide variety of culinary uses, such as in traditional dishes in France and Sweden, among others. In his 1806 book Attempt at a Flora (Försök til en flora), Retzius describes how chives are used with pancakes, soups, fish and sandwiches.They are also an ingredient of the gräddfil sauce served with the traditional herring dish served at Swedish midsummer celebrations. The flowers may also be used to garnish dishes. In Poland chives are served with quark cheese.

Medicinal Use

Containing numerous organosulfur compounds such as allyl sulfides and alkyl sulfoxides, chives are reported to have a beneficial effect on the circulatory system. They also have mild stimulant, diuretic, and antiseptic properties.

Other Uses

pest discourager

Yield/Price

Yield of fresh leaves per year is 5-6 kg/sqm.

Price of fresh leaves is around 8.5 Fr./100g, in a normal Swiss Supermarket (Migros/Coop) 13 Fr./100g, in a top-class Supermarket (Globus Delicatessa)

Price of plant is around 40 Fr./100g, together with pot, in Marktplatz Basel.

Price of processed leaves(dried) is around 28 Fr./100g, in a normal Swiss Supermarket (Migros/Coop). Price of processed leaves(dried and milled,top-class) is 370 Fr./100g, in a normal Swiss Supermarket (Migros/Coop).



Coriander. Genus:Coriandrum/Species:C. sativum

Coriander is an annual herb in the family Apiaceae. It is a soft, hairless plant growing to 50 centimetres tall. The leaves are variable in shape, broadly lobed at the base of the plant, and slender and feathery higher on the flowering stems. The flowers are borne in small umbels, white or very pale pink, asymmetrical.



Source: <http://pharm1.pharmazie.uni-greifswald.de/>

Cultivation

Coriander is a cold-resisting herb, cold and humid environmental conditions more demanding, and poor growth in the environment with high temperature and drought conditions.

Coriander is a low-temperature, long-sunshine plants. Under normal conditions, the seedlings in the low temperature of 5 degrees, after 10 to 20 days to be completed by vernalization. Later under long-sunshine conditions, photoperiod and bolting.

Planting Calendar

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Seeding												
Blooming												
Harvest												

Culinary Use

All parts of the plant are edible, but the fresh leaves and the dried seeds are the parts most commonly used in cooking. Coriander is common in South Asian, Middle Eastern, Central Asian, Mediterranean, Indian, Tex-Mex, Latin American, Portuguese, Chinese, African, and Scandinavian cuisine. The leaves are variously referred to as coriander leaves, fresh coriander, Chinese parsley, or cilantro (in America, from the Spanish name for the plant). The fresh leaves are an ingredient in many South Asian foods (such as chutneys and salads), in Chinese dishes, in Mexican cooking, particularly in salsa and guacamole and as a garnish, and in salads in Russia and other CIS countries. sed in European cuisine today.

Medicinal Use

It contains antioxidants, which can delay or prevent the spoilage of food seasoned with this spice, also a traditional treatment for diabetes. Coriander has been used as a folk medicine for the relief of anxiety and insomnia in Iran.

Yield/Price

Yield of fresh leaves per year is 4.2 kg/sqm.

Price of fresh leaves is around

- 11 Fr./100g, in a normal Swiss Supermarket (Migros/Coop)
- 13 Fr./100g, in a top-class Supermarket (Globus Delicatessa)

Price of plant is around

40 Fr./100g, together with pot, in Marktplatz Basel.

Price of processed leaves(dried) is around

22 Fr./100g, in a normal Swiss Supermarket (Migros/Coop).



Dill. Genus:Anethum/Species:A. graveolens

Dill is, depending on where it is grown, either a perennial or annual herb. It grows to 40–60 cm, with slender stems and alternate, finely divided, softly delicate leaves 10–20 cm long. The ultimate leaf divisions are 1–2 mm broad, slightly broader than the similar leaves of fennel.



Source: <http://biolib.de/>

Cultivation

Successful cultivation requires warm to hot summers with high sunshine levels; even partial shade will reduce the yield substantially. It also prefers rich, well drained soil.

The seed is harvested by cutting the flower heads off the stalks when the seed is beginning to ripen. The seed heads are placed upside down in a paper bag and left in a warm, dry place for a week. The seeds then separate from the stems easily for storage in an airtight container.

Planting Calendar

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Seeding												
Blooming												
Harvest												

Culinary Use

Consumption of fish or meat often used it for cooking, to remove the smell, the addition is also used in soups, pickles, bread and pickled food.

Its fruits and seeds, harvest when not yet riped, can be used to refine into oil consumption or make the spice. It can also be dried to storage and consume; its leaves as a vanilla material, can be eaten fresh. Dry processing of leaves smell a good fragrance, very commonly used in fish cooking.

Medicinal Use

Dill can be used to treat headaches, stomach and intestines to eliminate bad breath. For patients who have diseases such as diabetes and hypertension, it add flavor to alkaline salt dishes. It has effects of letting the anxious infants calmed down and so on.

Other Uses

spritual

Yield/Price

Yield of fresh leaves per year is 0.3-0.6 kg/sqm.

Price of fresh leaves is around

- 11 Fr./100g, in a normal Swiss Supermarket (Migros/Coop)
- 13 Fr./100g, in a top-class Supermarket (Globus Delicatessa)

Price of plant is around

40 Fr./100g, together with pot, in Marktplatz Basel.

Price of processed leaves(dried) is around

36 Fr./100g, in a normal Swiss Supermarket (Migros/Coop).



Mint. Genus:Mentha*

Mint is aromatic, almost exclusively perennial, rarely annual, herb. They have wide-spreading underground and overground stolons and erect, square, branched stems. The leaves are arranged in opposite pairs, from oblong to lanceolate, often downy, and with a serrate margin. Leaf colors range from dark green and gray-green to purple, blue, and sometimes pale yellow.



Source: <http://pharm1.pharmazie.uni-greifswald.de/>

Cultivation

All mints prefer, and thrive in, cool, moist spots in partial shade.In general, mints tolerate a wide range of conditions, and can also be grown in full sun. They are fast growing, extending their reach along surfaces through a network of runners. Due to their speedy growth, one plant of each desired mint, along with a little care, will provide more than enough mint for home use. Harvesting of mint leaves can be done at any time. Fresh mint leaves should be used immediately or stored up to a couple of days in plastic bags within a refrigerator.

Planting Calendar

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Seeding												
Blooming												
Harvest												

Culinary Use

The leaf, fresh or dried, is the culinary source of mint. Fresh mint is usually preferred over dried mint when storage of the mint is not a problem. The leaves have a pleasant warm, fresh, aromatic, sweet flavor with a cool aftertaste. Mint leaves are used in teas, beverages, jellies, syrups, candies, and ice creams. In Middle Eastern cuisine, mint is used on lamb dishes, while in British cuisine and American cuisine, mint sauce and mint jelly are used, respectively.

Medicinal Use

Mint was originally used as a medicinal herb to treat stomach ache and chest pains, and it is commonly used in the form of tea as a home remedy to help alleviate stomach pain.

Other Uses

pest discourager/cosmetics/perfumes

Yield/Price

Yield of fresh leaves per year is
2 kg/sqm.

Price of fresh leaves is around
11 Fr./100g, in a normal Swiss Supermarket (Migros/Coop)
14 Fr./100g, in a top-class Supermarket (Globus Delicatessa)

Price of plant is around
40 Fr./100g, together with pot, in Marktplatz Basel.

*This page describe the general feature of all species of mint and of peppermint.



Oregano. Genus:Origanum/Species:O. vulgare

Oregano is a perennial herb, growing from 20–80 cm tall, with opposite leaves 1–4 cm long. Oregano will grow in a pH range between 6.0 (mildly acid) and 9.0 (strongly alkaline) with a preferred range between 6.0 and 8.0. The flowers are purple, 3–4 mm long, produced in erect spikes.



Source: <http://biolib.de/>

Cultivation

Oregano needs only a moderately fertile soil to thrive in, though drainage and friability are important. Plant outdoors 12 inches apart after all danger of frost has passed. Plants are easily started from seed, stem cuttings, or mature root division. Oregano appreciates being hoed regularly and neighboring weeds should be kept under control. Mulching with hay helps keep plants clean outdoors. Oregano lends itself well to container and hydroponic methods of cultivation.

Planting Calendar

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Seeding												
Blooming												
Harvest												

Culinary Use

Oregano is an important culinary herb, used for the flavor of its leaves, which can be more flavourful when dried than fresh. It has an aromatic, warm and slightly bitter taste, which can vary in intensity. Good quality oregano may be strong enough almost to numb the tongue, but the cultivars adapted to colder climates often have a lesser flavor. Factors such as climate, seasons and soil composition may affect the aromatic oils present, and this effect may be greater than the differences between the various species of plants.

Oregano's most prominent modern use is as the staple herb of Italian-American cuisine.

Medicinal Use

It can be diuretic and improve the appetite and digestion. It has antibacterial effect and the strongest antioxidant function among all vegetables.It can be used to treat fever, headache, body drowsiness, vomiting, diarrhea and other symptoms.

Yield/Price

Yield of fresh leaves per year is
1.1 kg/sqm.

Price of fresh leaves is around
11 Fr./100g, in a normal Swiss Supermarket (Migros/Coop)
14 Fr./100g, in a top-class Supermarket (Globus Delicatessa)

Price of plant is around
40 Fr./100g, together with pot, in Marktplatz Basel.

Price of processed leaves(dried) is around
39 Fr./100g, in a normal Swiss Supermarket (Migros/Coop).



Parsley. Genus:Petroselinum/Species:P. crispum

Parsley is a bright green, hairless, biennial, herbaceous plant in temperate climates, or an annual herb in subtropical and tropical areas. It offers protection even in its first year as the strong scent of the parsley leaves appear to mingle with the tomato scent and confuses the tomato moth. It grows up to 30-100 cm.



Source: <http://pharm1.pharmazie.uni-greifswald.de/>

Cultivation

Parsley grows best in moist, well drained soil, with full sun. It grows best between 22–30 °C, and is usually grown from seed. Germination is slow, taking four to six weeks, and often difficult because of furanocoumarins in its seed coat.Plants grown for the leaf crop are typically spaced 10 cm apart, while those grown as a root crop are typically spaced 20 cm apart to allow for the root development.

Planting Calendar

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Seeding												
Blooming												
Harvest												

Culinary Use

Parsley is widely used in Middle Eastern, European, and American cooking. Curly leaf parsley is often used as a garnish. In central and eastern Europe and in western Asia, many dishes are served with fresh green chopped parsley sprinkled on top. Green parsley is often used as a garnish on potato dishes (boiled or mashed potatoes), on rice dishes (risotto or pilaf), on fish, fried chicken, lamb or goose, steaks, meat or vegetable stews (like beef bourguignon, goulash or chicken paprikash).

Medicinal Use

It is Hypotensive, diuresis. It has also the substanse of anti-cancer. Due to its iron element, it can enrich and tonify the blood.

Other Uses

Pest discourager.

Yield/Price

Yield of fresh leaves per year is
0.25-0.75 kg/sqm.

Price of fresh leaves is around
11 Fr./100g, in a normal Swiss Supermarket (Migros/Coop)
14 Fr./100g, in a top-class Supermarket (Globus Delicatessa)

Price of plant is around
40 Fr./100g, together with pot(50 sqcm), in Marktplatz Basel.

Price of processed leaves(dried) is around
32 Fr./100g, in a normal Swiss Supermarket (Migros/Coop).
Price of processed leaves(dried and milled) is
130 Fr./100g, in a normal Swiss Supermarket (Migros/Coop).



Rosemary. Genus:Rosmarinus/Species:R. officinalis

Rosemary is a woody, perennial herb with fragrant, evergreen, needle-like leaves and white, pink, purple or blue flowers, native to the Mediterranean region. It is an aromatic evergreen shrub that has leaves similar to pine needles. the upright forms can reach 1.5 m tall.



Source: <http://pharm1.pharmazie.uni-greifswald.de/>

Cultivation

Since it is attractive and drought tolerant, Rosemary is used as an ornamental plant in gardens and for xeriscape landscaping, especially in regions of Mediterranean climate. It is considered easy to grow and pest-resistant. Rosemary can grow quite large and retain attractiveness for many years, can be pruned into formal shapes and low hedges and has been used for topiary. It is easily grown in pots. The groundcover cultivars spread widely, with a dense and durable texture.

Planting Calendar

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Seeding												
Blooming												
Harvest												

Culinary Use

The leaves, both fresh and dried, are used in traditional Mediterranean cuisine. They have a bitter, astringent taste and are highly aromatic, which complements a wide variety of foods. A tisane can be made from the leaves. When burnt, they give off a mustard-like smell and a smell similar to burning wood, which can be used to flavor foods while barbecuing. Rosemary is high in iron, calcium and vitamin B6, 317 mg, 6.65 mg and 0.336 mg per 100 g, respectively. Rosemary extract has been shown to improve the shelf life and heat stability of omega 3-rich oils, which are prone to rancidity.

The herb is also widely used in Turkish, Palestinian, Lebanese, Egyptian, Syrian, Greek, Portuguese, Spanish, Philippine and Latin American cuisines.

Medicinal Use

Eliminate bloating, enhance memory, refreshing, reduce headaches, colds, abdominal distension, obesity is its main effects. Conditioning oily and unclean skin, promote blood circulation and stimulate hair regrowth(maternal fasting).

Other Uses

ornamental/cosmetic

Yield/Price/Planting schedule

Yield of fresh leaves per year is
1.2-1.5 kg/sqm.

Price of fresh leaves is around
11 Fr./100g, in a normal Swiss Supermarket (Migros/Coop)
14 Fr./100g, in a top-class Supermarket (Globus Delicatessa)

Price of plant is around
75 Fr./100g, together with pot, in Marktplatz Basel.

Price of processed leaves(dried) is around
39 Fr./100g, in a normal Swiss Supermarket (Migros/Coop).



Sage(Common Sage) Genus:Salvia/Species:S. officinalis

Sage is a perennial, ever-green subshrub, with woody stems, grayish leaves, and blue to purplish flowers. Cultivars are quite variable in size, leaf and flower color, and foliage pattern, with many variegated leaf types.



Source: <http://pharm1.pharmazie.uni-greifswald.de/>

Cultivation

It needs adequate sunshine and good ventilation, well-drained sandy loam or the deep loam.

Seeding 3-5 tablets per hole directly, germinate after a week or won strains up to 5-10CM to be thinning seedlings. Spacing of 20-30CM. Prune after the adult can increase the distance again, in order to have more vigorous growth. The light intensity of different varieties of sage is not the same which should be taken care of.

Planting Calendar

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Seeding												
Blooming												
Harvest												

Culinary Use

Sage smells fragrant and tastes spicy, bitter and astringent is (mouth feel furry). The spice is used for meat dishes, poultry, sausages, fish and herb cheese. Particularly fatty foods to sage fits well because it promotes the wholesome diet of heavy sage is one of the few herbs that can also use dried well.

Raw and finely chopped sage leaves are suitable for fish and chicken fillings, to flavor soups and vegetables, it is used.

It is a classic herb in all Germany, especially in sausage and sagecake which is against drunkenness. In British cooking, it is used for flavoring fatty meats, Sage Derby cheese, poultry or pork stuffing, Lincolnshire sausage, and in sauces. Sage is also used in Italian cooking, in the Balkans, and the Middle East. It is one of the major herbs used in the traditional turkey stuffing for the Thanksgiving Day dinner in the United States.

Medicinal Use

It could heal irregular menstruation; dysmenorrhea.It could also work as a treatment for Alzheimer’s disease patients. Sage leaf extract may be effective and safe in the treatment of hyperlipidemia.

Other Uses

cosmetic/perfume

Yield/Price

Yield of fresh leaves per year is 3-4 kg/sqm.

Price of fresh leaves is around

11 Fr./100g, in a normal Swiss Supermarket (Migros/Coop)
13 Fr./100g, in a top-class Supermarket (Globus Delicatessa)

Price of plant is around

40 Fr./100g, together with pot, in Marktplatz Basel.

Price of processed leaves(dried) is around

65 Fr./100g, in a normal Swiss Supermarket (Migros/Coop).



Thyme(Common Thyme) Genus:Thymus/Species:T. vulgaris

Thyme is a perential low growing herbaceous plant, sometimes becoming somewhat woody.

It typically grows as a sub-shrub, between 15 and 20 cm tall.

stems are narrow, evergreen woody and branchy.



Source: <http://pharm1.pharmazie.uni-greifswald.de/>

Cultivation

Thyme is best cultivated in a hot, sunny location with well-drained soil. It is generally planted in the spring, and thereafter grows as a perennial. It can be propagated by seed, cuttings, or by dividing rooted sections of the plant. It tolerates drought well. The plants can take deep freezes and are found growing wild on mountain highlands.It has a seed germination time of 12-20 days, ripening time of 90-10 days, flowering take place in summer.

Planting Calendar

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Seeding												
Blooming												
Harvest												

Culinary Use

Thyme is widely used in cooking. The herb is a basic ingredient in Levantine country cuisine and others which derives from it.

Thyme is often used to flavour meats, soups and stews. It has a particular affinity to and is often used as a primary flavour with lamb, tomatoes and eggs. Thyme, while flavourful, does not overpower and blends well with other herbs and spices. In some Levantine countries, and Assyrian, the condiment za’atar (Arabic for thyme) contains thyme as a vital ingredient. It is a common component of the bouquet garni, and of herbes de Provence.

Medicinal Use

It contains a powerful disinfectant called thymol that is effective against bacteria and fungi.Thymol also acts as a expectorant, loosening phlegm in the respiratory tract so it can be coughed up. Doctors prescribed the oil externally as an anti-septic for fungal infections such as athlete’s foot.

Other Uses

ornamental/perfume

Yield/Price

Yield of fresh leaves per year is 3 kg/sqm.

Price of fresh leaves is around







11 Fr./100g, in a normal Swiss Supermarket (Migros/Coop)
13 Fr./100g, in a top-class Supermarket (Globus Delicatessa)

Price of plant is around

40 Fr./100g, together with pot, in Marktplatz Basel.

Price of processed leaves(dried) is around

23 Fr./100g, in a normal Swiss Supermarket (Migros/Coop).

										
	Basil	Chive	Coriander	Dill	Mint	Oregano	Parsley	Rosemary	Sage	Thyme
Cultivation Aspect										
Demand on Soil	high	high	high	high	mid	high	high	low	high	mid
Demand on Water	high	mid-high	mid	low	mid-high	mid	mid	mid	mid-low	low
Demand on Sun-Exposure	high	mid-low	high	high	high	high	mid-high	mid	high	high
Hardiness	low	high	high	high	high	high	low	high	high	high
Economical Aspect										
Yield (kg/m²)	1.1	1.4	1.7	0.5	1.2	1.1	0.8	0.7	0.9	1
Price (Fr./100g)	15	11	14	15	15	15	15	24	15	15
Sales (Fr./m2)	165	154	238	75	180	165	90	168	135	150
General Cost (Fr./m2)	110	70	130	70	75	80	85	55	75	80
Profit (Fr./m2)	55	84	108	5	105	85	5	113	60	90
Popularity defined by Selling (top 5)	+				+	+			+	+
Popularity defined by Chefs (top 5)	+	+		+	+					+

Synthesis Matrix of Main Parameters

Species Selection

After synthesis and comparison of main parameters(each parameter considered equally), a selection is drawn.

The first priority group would be **Rosemary, Thyme, Mint,**

The second priority group would be **Sage and Chive.**

No plant listed in the chart could not absolutely adapted into site, so other 5 Species would also be planted with small amount in order to have relative bio-diversity, also to satisfy needs other than pure economically production such as exhibition and education to public.

During specific planning, attention should also be paid to facts such as companion plants and seasonal interventions.

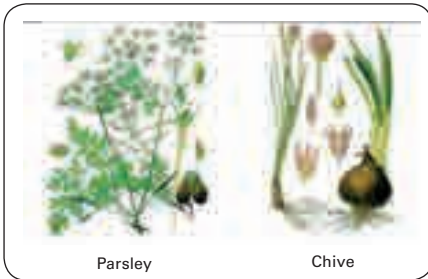


First and Second Priority Group



Companion Herbs

Among these 10 herbs, there are two companion plants group, which should be planted together, because they help each other grow. Mint is a relative non/compan



Seasonal Interventions

Some herbs need more care in winter or summer due to less hardiness. The seasonal intervention is mainly to use light structure to provide shade or warmth.

Container as Cultivation Method

Herbs does not take up much space and soil, therefore it It fits perfectly well into pots or other small scaled containers which is also relative light.

This provide great convinience for the installation, management, distribution as well as translocation after three years of use. Given consideration of the current site, **Interim and mobile feature** is just what is required.

There are a lot of variety in small containers which has different specialty. Author categorize them into 6 main types.



Pots in Hirtenweg Nursery, Basel

Standard Pots

The very normal way of cultivating herbs, the volume of pots differs a bit, the most common one for herb is 3000cm³. One plant per pot, standard makes it most suitable for appreciation or selling.



Box Roof Garden, Basel

Source: <http://nutzdach.ch>

Box

Boxes are larger than standard pots, are more like divided plots of natural field for plants.



Burlap Sacks

Source: <http://matadornetwork.com/>

Sack

Commonly, plant-used soil is pacaged and sold in burlap sacks. Direct use is very convenient.



Cans Hanged as Container

Source: <http://matadornetwork.com/>

Hangable Container

These hangable metal cans can be hanged that take fully ad- vantages of the wall, and create a vertical spacial vision.



Tyre

Source: <http://matadornetwork.com/>



Wading Pool

Source: <http://matadornetwork.com/>



Cooking Pots

Source: <http://matadornetwork.com/>

Recycling Container

No matter they are shopping carts or cooking pots, people who using them as herb container share the same idea, that is recycling, mostly household articles.



Cart

Source: <http://matadornetwork.com/>



Truck as Plating Field, USA

Source: <http://matadornetwork.com/>

Waggon

Waggon as large platform for plants growing is relative a new idea, it has feature of moblie and decoration of vehicles as well as the route the vehicle stayed or passed.



Carriage as Plating Field, USA

Source: <http://matadornetwork.com/>

Container Selection

In the selection of containers, the dominant factors is economic, light, efficient and convinient. In one word, it has to fit the interim character well. Considering about the convinience of direct transplanting, transportation(could be fit into standard tray which makes it even easier) and selling, **standard pot** (50 cm³)should be a prior choice,applied with dominant quantities. Taking advantage of the current site, **box** should be a second choice.

However, the other means could also be used with very small quantities, to satisfy other needs besides pure aim of agricultural yield, education and exhibition for instance. Especially the few **railway wagons** could be remained as container in order to remind people the former utility and character of this site.



Standard Pots in Tray



Plants in SBB Cargo Box

Source: <http://nutzdach.ch>



Unused Waggon at Site

HERB HARBOR

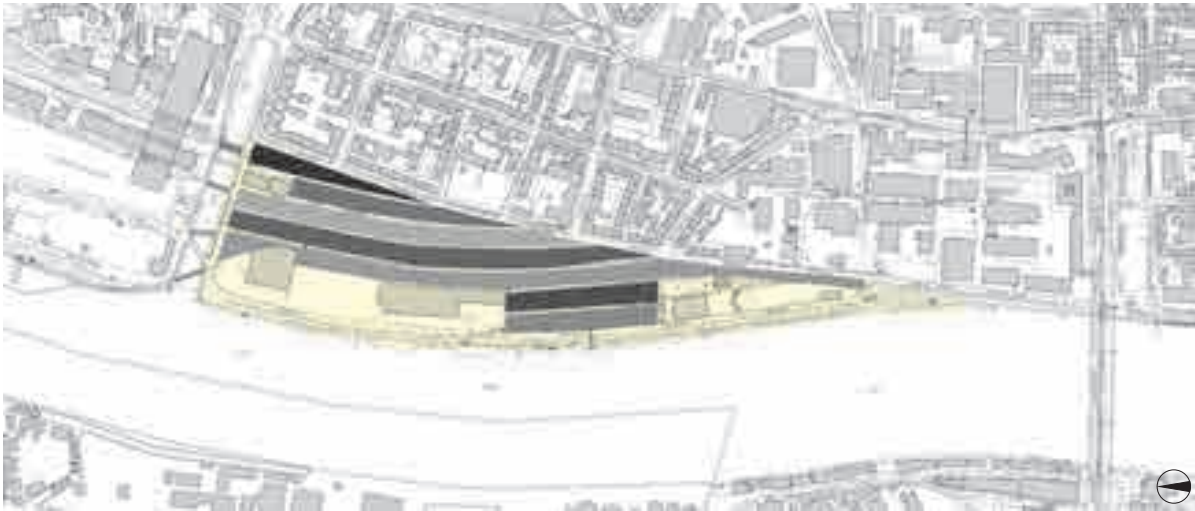


Strategies



Program

- Herb Production
- Herb Production on Roof of Existing Buildings
- Unchanged Site
- Herb Promenade
- Herb Market and Gastronomy Use
- Herb Management



Visual Diversity Scheme Promenade-Axis



Connection to Neighborhood



Visual Diversity Scheme Block-Axis

Strategies



Route Strategy

- Existing tracks converted into circulation
- River bank and existing urban street developed into promenades

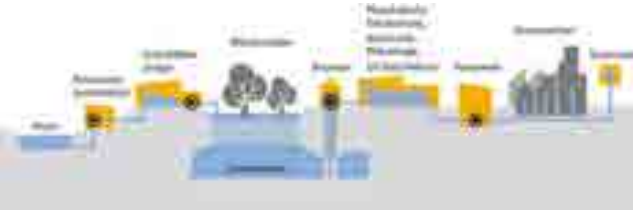


Distribution Path of Herb Products



Irrigation Strategy

- Part of City Water Supply System
- Connection Point
- Pipes and Angle-controllable Sprinklers for Ground Irrigation



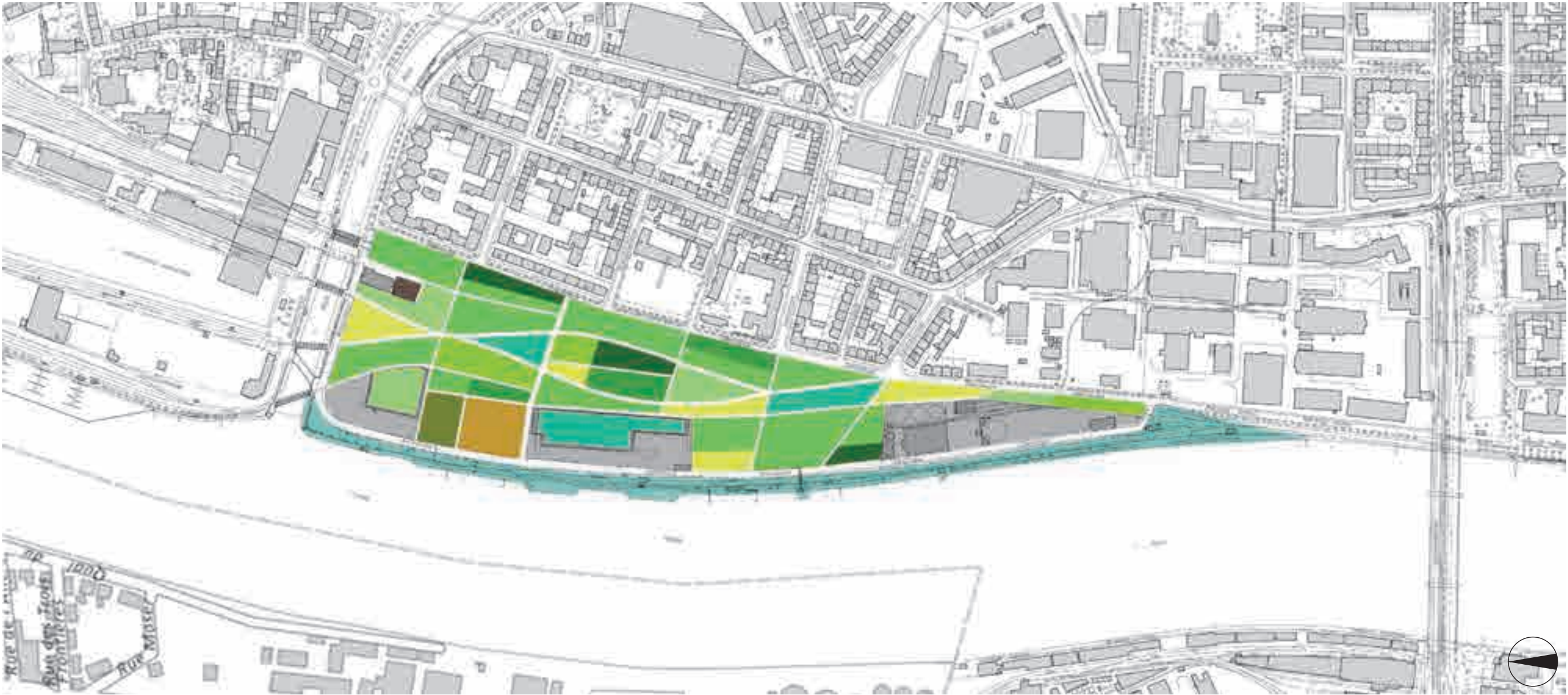
Water Supply System in Basel

Source: <http://iwrb.ch>



Sprinkler





Masterplan 1:5000

- Herb Production:
- Rosemary, Sage and Thyme
- Basil, Oregano
- Coriander
- Dill
- Parsley
- Mint
- Chive
- Herb Market and Process Shop
- Herb-featured Restaurant
- Herb along Promenade(all species in box)
- Management
- Unchanged Part

	Jan			Feb			Mar			Apr			May			Jun			Jul			Aug			Sep			Oct			Nov			Dec		
Basil																																				
Chives																																				
Coriander																																				
Dill																																				
Mint																																				
Oregano																																				
Parsley																																				
Rosemary																																				
Sage																																				
Thyme																																				

Seasonal Scenarios

Impression Spring
Most herbs have slightly enter the declining harvest period. Some of them have flower buds, ready for blossom.

Color,
Background is green,
a bit cream, light yellow then comes rosy.

Aroma,
Topnote: basil, light sweet
Basenote: thyme, light lime.

Impression Autumn
All herbs’ flower have faded away, part of the herbs have entre the high yield time. Great time for intensive seeding.

Color,
pure light green

Aroma,
Topnote: basil
Basenote: sage and rosemary, sweet and bit punge.

Impression Summer
All herbs are joining the blooming group in turn. Field becomes much more colorful, covered with vivid outlook. Most began to wither in this period, short blooming period then ended.

Color,
Background is light green,
larked with blue, purple and a bit yellow.

Aroma,
Topnote: mint, fresh
Basenote: mixed light fragrance.

Impression Winter
Majority of the herbs have taller stems in this high yield period.

Color,
All sorts of green, dark

Aroma,
Topnote: basil, mint and coriander
Basenote: thyme mixed with other scents, sweet and little acridness.

Sequence of Blossom from
January to July...



Jan: Rosemary flower



Feb: Parsley flower



Mar: Chive flower



Mar: Coriander flower



May: Thyme flower



Jun: Dill flower



Jun: Mint flower



Jun: Sage flower



Jul: Basil flower



Jul: Oregano flower



Aerial View, Jul. 2013



Aerial View, Feb. 2014



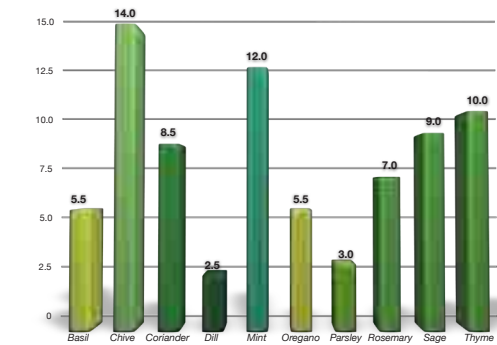
Perspective Northwest, Jul. 2013



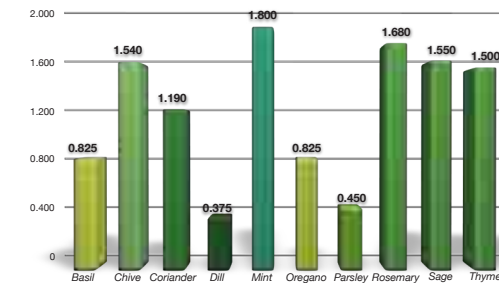
Perspective Northwest, Feb. 2014

Yield and Economic Value

The whole yield of the field is about 77ton and the corresponding economic value is 11.54 Mio.CHF. Deducted from the estimation of general cost 5.74 Mio.CHF, the Profit would be 5.8 Mio.Fr. It create about 35 Mio. CHF in the whole interim use period.



Yearly Production of Fresh Herb in Ton



Yearly Economic Value in Mio.CHF.

Beyond the Yield

Instead of waste this urban area for 3 years, efficiently interim use could bring great economic profit to the city and people(depending on the business mode such as Community Support Agriculture).

However, that is not the only meaning or aim of this project. By initialize this interim urban garden, the inhabitants in Metrobasel have better chance to get benefit from fresh and local herb products, which is flavory, nutritional and even medicinal in their daily dishes.

In terms of urban environment, It also create a unique landscape between the Rhine and Klybeck settlements, between city centre and border of the city, it ameliorate the natural environment for the city and inhabitants, even for tourists, has effects of purifying air etc.

Sociologically, it has great meaning as being a place of exhibition, education as well, young people will benefit from it especially.

Biologically, it could generate local-adapted new species through the cultivation process, which on one hand could be used in further scientific research, on the other hand contributes to the bio-diversity and also the whole biological environment of Metrobasel region.

Urban Character and Popularization

To summarize, herb has several features such as perishability, high economical value in short period, efficient land use and cultivation, multifuction etc. together with interim and mobile of cultivation method, which we could see as an urban character.

As a form of agriculture, It fits well to the urban environment.

Nowadays,during the urban transformation all over the world, there are many areas within or near the citys has the similar potential, this interim urban garden could be set as a prototype to popularize.



Potential Areas within or near Basel Stadt



Perspective of Promenade