INFIGRO
NATURAL TECHNOLOGIES
insulate ▪ filter ▪ grow

inherently AECI

EXPANDED PERLITE FOR HORTICULTURAL USE

What is perlite?

Perlite is a naturally occurring volcanic glass formed when lava cools rapidly, trapping minute quantities of water. When heated to about 1000ºC, the trapped water vapourises and puffs out the softened granules to form a mineral foam. It is used extensively in industry for various applications, including the filtration of foods and beverages. The porous nature of the cellular granules result in a product which holds large quantities of readily available moisture, and has a strong capillary attraction for water. Since it is free-draining, it is also well aerated. These properties make perlite very suitable for use in ebb- and flood systems. Perlite is classified as chemically inert and has a neutral pH. It does not degrade or form any chemical reaction with nutrient formulations, which results in better and easier control of fertigation regimes and thus more predictable growth patterns over the entire production cycle.

Capillary properties of Groperl®:

A constant supply of nutrient is maintained in the perlite from a shallow reservoir of solution in the bottom of the growing bags. Water removed by transpiring plants is rapidly replaced by capillary rise through the perlite from the basal reservoir. The moisture profile will remain constant as long as the reservoir is maintained.

Application:

Groperl®can be used in a number of different hydroponic systems. Each system has its own advantages and disadvantages, and a grower should determine which approach is most suitable for his specific application. The optimum volume of Groperl® per plant will be determined by the degree of control which can be exercised over the entire growing environment. Trials have been conducted at various research institutions, using different bag sizes and varying the number of plants per bag. As a rule of thumb, 10 litres of Groperl® per plant should give acceptable results. In more sophisticated systems it would be possible to reduce the required volume of Groperl® per plant to less than 5 litres. The smaller the rooting volume, the greater the managerial skill required to achieve optimum results.The bag or pillow system requires an efficient trickle or drip irrigation system. The gully reservoir system can be irrigated using either trickle irrigation or a single inlet per row. In all cases, there should be a degree of over-watering to ensure plants are not stressed and to prevent build-up of salts. It is not recommended to have a run-off of less than 25%.The conductivity and pH value of the solution in the reservoir should be checked daily. The conductivity of the free solution should be around 1000 micro siemens/cm lower than the conductivity of the feed solution. Groperl® can be economically sterilised for re-use many times by a number of methods. These include steam, dry heat, or any of the commercially available sterilants. By using the latter, it is possible to do this in-situ, without having to unload and repack the Groperl®.

Total Control = Predictable Results

The successful production of crops in a controlled environment is totally dependent on the quality of the various inputs.

The major considerations are:
- WATER
- NUTRIENTS
- CULTIVAR
- TEMPERATURE
- HUMIDITY
- LIGHT
- GROWING MEDIUM

All of these can be controlled and manipulated to give the required end result. The one variable that cannot be managed or predicted is the decomposition rate of an organic medium (such as wood shavings) necessitating continuous monitoring to adapt nutrient balance. Groperl®, being inorganic, does not alter or change in anyway, ensuring that the root environment remains constant during the entire life cycle of the crop. Groperl® is produced to specific and exact standards, and the product will not differ from bag to bag, from batch to batch, or from season to season.

Flower Arranging, Mulching, Storage and Packing of Bulbs, Cuttings and Dormant Plants

Flower Arrangements

Horticultural perlite is ideal for supporting stems of cut flowers in preparing flower arrangements. It is clean, sterile, attractive and holds water on the surface of the particle making the water available to the stems. Fill container with horticultural perlite, saturate thoroughly with water, pour off excess water and insert flowers. Horticultural perlite will hold flowers firmly in place.

Mulching

Horticultural perlite is excellent for mulching flower beds, roses and shrubs. It prevents drying out and it prevents soil from compacting. It also insulates against temperature changes and provides soil aeration. For summer mulch, spread 35-50 mm of horticultural perlite over loosened soil around plants and mix with 25-50 mm of surface soil. For winter mulch, spread 50-75 mm of horticultural perlite over loosened soil around plants. Spread layer of soil over perlite. In Spring, this mulch can be mixed into soil as conditioner or summer mulch.

Storing

Horticultural perlite is the ideal material for use around bulbs, corns, and tuberous roots. Fill storage container to depth of 25 mm with horticultural perlite, place bulbs or roots on top, cover completely with another layer of perlite. In cases where moisture is required moisten surface lightly with fine mist at infrequent intervals.

Packaging

Mix equal parts horticultural perlite and wet peat moss by volume. Squeeze out excess moisture in the mix and package plants or cuttings in plastic wrapping.

Horticultural perlite helps plants thrive and keeps soil loose and workable for years

- Improves soil structure.
- Eliminates soil crusting and compacting.
- Increased water holding capacity and fertilizer retension.
- Improves drainage and aeration.
- Provides uniform growing media,
- Produces denser root structure.

Among the unique properties of horticultural perlite is its ability to work for many years in the soil. It does this because it is inorganic and does not deteriorate. In addition, perlite is chemically inert and has an essentially neutral pH. Because it is sterile, perlite is free of disease, weed seeds and insects. Its light weight makes perlite easy for the gardener to handle and it is clean and odorless too!

Improving Established Lawns can Be Fun With Horticultural Perlite

Spread 6 mm of horticultural perlite over lawn area and water heavily. To achieve best results aerate lawn and fertilize at time of top-dressing with perlite. For compacted, heavily used turf area, repeat this top-dressing procedure every four months during growing season.

For Gardens, Flower Beds and Newly Prepared Lawns

Cultivate soil to depth of 300 mm with fork or rototiller. Mix thoroughly equal parts of horticultural perlite and moist peat moss. Spread 100 mm of this mixture over cultivated soil. Plant seed or plants in usual manner, water well.

Planting Trees, Shrubs or Vines

Dig planting pocket 150 mm larger than plant roots. Mix equal parts 1/3 horticultural perlite, 1/3 soil, and 1/3 moist organic matter such as peat moss. Place plant in hole of same level it was growing previously. Tamp the perlite mixture well into the area around roots. Water thoroughly.

Starting Seeds

Prepare a mixture of horticultural perlite and peat moss. Fill trays or pots with mixture. Screen 1.5 mm of spaghnum or peat moss through fine screen onto surface of mixture and sow seeds. Use screened material for covering seeds when required. Place trays or pots in polyethylene bags or cover with glass. Remove covering when seeds have germinated.

Lightweight Rooftop Gardening

For rooftop gardens, where weight is a factor, the advantages of horticultural perlite are outstanding. Wet, sandy loam weighs about 1 920-2240 kg/ m^3; perlite-peat moss mixed in equal volumes will weigh about 560 kg/m^3 when wet. This difference can be critical where supporting structures such as roofs must be considered. In addition, with a perlite mix, the growing media can be several times as deep as a conventional soil without increasing weight. Thus, the rooftop gardener can grow larger trees, shrubs, and plants.

Potting House Plants

Mix equal parts horticultural perlite and wet peat moss. Add 1 cup of complete fertilizer such as 5-10-5 per bushel of mixture. Mix thoroughly. Wet these materials when mixing. Use this mix for potting. Firm mix well around roots but do not pack tightly. Water thoroughly.

Rooting Cuttings

A mixture of 50% horticultural perlite and 50% peat moss is recommended. A 100% perlite mix may be used. Place this mixture in tray or pot, insert cutting and firm the mix around the cutting. Flats or trays that permit water drainage should be used.

Soil Mixes for Planters

Horticultural perlite is the ideal material for indoor and outdoor displays in planter boxes, tubs and ornamental containers. Because the material is so light in weight, the cost of planter maintenance is greatly reduced. In addition, planters may be easily moved whether on balconies, patios, sun-decks or similar locations. The perlite mix for planters should be the same as is used with house plants.

PHYSICAL PROPERTIES OF GROPERL®

- Inorganic
- Inert
- Sterile
- Neutral to slightly alkaline pH
- EC 0.2 microsiemens
- Free of pathogens, seeds or insects
- Non-toxic
- Non-hazardous
- Non-flammable
- Does not degrade or alter chemically
- Free-draining
- High air-filled porosity
- Can be sterilised for re-use

Bulk density:	Typically 100kg/m3
Particle size:	Typically 0.5 – 4.0mm
Typical air-filled porosity:	43%
Packaging:	100 litre (when packed) or in bulk by arrangement