

## **Polydome: Towards Net Zero Impact Food Production**

**Rotterdam, The Netherlands - May 4th, 2011** - Except Integrated Sustainability has released Polydome, a revolutionary approach to greenhouse agriculture that offers the possibility of commercial scale, net-zero-impact food production. The Polydome system strategically interweaves a wide variety of crops and animals, taking advantage of every inch of the greenhouse while eliminating the need for synthetic fertilizers and pesticides. With its high yields (60 – 90 kg per square meter), and diverse outputs (over 50 crops, two mushroom varieties, chickens, eggs, fish, and honey), even a small Polydome system can provide a richly varied food supply for a large population. Using Polydome, even a city as dense as New York could provide the majority of its own food supply using available roof space.

### **Productive ecosystems**

Complementing advanced technologies with an innovative design, Polydome maximizes food production and variety by operating more like a self-maintaining ecosystem than an industrial farm. Plants, mushrooms, livestock, and insects interweave to connect waste, water, and energy flows between species and capture the benefits of varied space and light conditions. Shade-loving plants are sheltered by taller crops that soak up sun, chicken and fish provide ready-made fertilizer, while beneficial insects act as natural substitutes for pesticides. Animals within the system range freely and live naturally, while the design of the crop layout limits the need for repetitive human labor.

### **Feeding our cities**

Since cities have existed, they have been dependent on outlying agricultural land to feed themselves. The Polydome system's increased variety, efficient spatial arrangements, and reduced environmental footprint mean that a compact Polydome system could sustainably and locally feed a large population. With its flexible cropping schedules, a Polydome system can respond quickly to local food demands and offer more economic resilience than standard single crop systems. For the first time in history, cities could become producers rather than just consumers, capable of providing for many of their needs from within, and reducing the disconnect between urban life and agricultural production.

### **Sustainable agriculture**

Polydome offers a range of environmental savings, highly efficient and localized production, attention to both human and animal welfare, and cutting edge energy and water management strategies. As a result, Polydome systems could represent a step towards truly sustainable agriculture and serve as a vital building block of a resilient, sustainable society.

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