

Appendix 5 –HEMP LIME

An Investigation of Hemp and Lime as a Building Material (Extract)

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Hemp as a building material

<p>Advantages</p> <ul style="list-style-type: none"> • Natural, organic sustainable aggregate • Converts solar energy into a building material usable by man <ul style="list-style-type: none"> • Easy to produce and quick-growing requiring little fertilizer • Easy to grow in most soil conditions (good for soil and crop rotation) • Very fast growing (8 feet in 100 days) <ul style="list-style-type: none"> • Hurds are available as a by-product so using hurds prevents waste • No environmental damage • Renewable (as crops are harvested, more can be replanted) 	<p>Disadvantages</p> <ul style="list-style-type: none"> • Difficult to process, unless equipment available • General confusion about legislation and licensing for growing
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Lime as a building material

<p>Advantages</p> <ul style="list-style-type: none"> • Less energy required for production than for cement production • Absorbs CO₂ • Is a flexible and breathable binder <ul style="list-style-type: none"> • Preservative (prevents damage from rodents, fungi and micro-organisms) • Easily available 	<p>Disadvantages</p> <ul style="list-style-type: none"> • Quarrying – environmental pollution • Burning uses energy • Caustic material – proper protection needed while working • Fine dust particles – care needed to avoid inhalation
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Combination of Hemp and Lime as a building material

<p>Advantages</p> <ul style="list-style-type: none"> • Low embodied energy – an ‘environmentally friendly’ material • A structural and insulating building material • Durable and lightweight • Provides a ‘breathable’ and porous building membrane. This prevents moisture build-up and ensures a dry dwelling/building 	<p>Disadvantages</p> <ul style="list-style-type: none"> • Low strength • No building codes/regulations available • Thick walls required for both structure and insulation. This may be significant on a small site <ul style="list-style-type: none"> • Low E-modulus resulting in significant compression of material under loading • May take a long period of time for walls to dry out. Fungal growth is possible in humid climates
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