










Building blocks for sustainable growing media

This table shows **five building blocks** for sustainable growing media. For each of these building blocks, related scientific **papers** and **videos** are linked to the associated icons. The building blocks can be used for **bulk replacement** (>10 vol%) of peat, coir or mineral materials or they can be added in smaller amounts as **amendment** (max 5 g/L). Both the **processing** from feedstock to building block and the **feedstock** itself can have an **effect on the characteristics** of the materials. To get more details on that, try out the **Decision Tool**. Some of the materials need **sanitation to remove pathogens** (heat or chemical treatment), before they can be added to growing media. Additional **properties that need extra attention** are also mentioned. Finally the effect of the building blocks on the **microbiology** of the growing media is also highlighted.



MORE INFO: DECISION TOOL						
PAPER VIDEO	BULK OR AMENDMENT?	EFFECT OF PROCESS ON CHARACTERISTICS?	EFFECT OF FEEDSTOCK ON CHARACTERISTICS?	SANITATION NEEDED ?	PAY ATTENTION TO?	EFFECT ON MICROBIOLOGY OF GM?
CHITINE  	amendment	YES	YES	via process	source of N (microbial N release)	stimulates microbiology
BIOCHAR  	bulk/ amendment	YES	YES	via process	increases pH	stabilises biocontrol organisms after inoculation
SPENT GROWING MEDIA  	bulk	YES	YES	required	source of P and K, low N-release	very low microbial activity
GREEN COMPOST 	bulk	YES	YES	via process	source of P and K, low N-release	diverse microbial life
PLANT FIBRES  	bulk	YES	YES	required/via process	risk of N-fixation	inoculation with biocontrol organisms possible

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Webinar 1:

Large scale gasification for energy and biochar production

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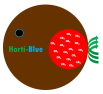
Webinar 2:

Production of chitin from shrimp shells or Chinese mitten crab

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Webinar 3:

Spent growing media for direct reuse or as a feedstock for biochar and compost

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Webinar 4:

New growing media blends for strawberry and tomato

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Building blocks for sustainable growing media: more info?

	Video	Paper	Decision tool
Chitin	https://youtu.be/yUymPsQwS44	Chemically versus thermally processed brown shrimp shells or Chinese mitten crab as a source of chitin https://doi.org/10.1094/MPMI-08-20-0223-R	https://www.horti-bluec.eu/en/decision-tool
Biochar	https://www.youtube.com/watch?v=jiccJc9d-Gg https://youtu.be/9YpdSjLu-Zc	https://www.mdpi.com/2073-4395/11/4/629 https://www.frontiersin.org/articles/10.3389/fmicb.2016.02062/full	
Spent growing media	https://youtu.be/MXcMc0vS0f0	Grow - Store - Steam - Re-peat: Reuse of spent growing media for circular cultivation	
Green compost		Acidification of composts versus woody management residues: Optimizing biological and chemical characteristics for a better fit in growing media	
Plant fibers	https://www.youtube.com/watch?v=fCiJ_20c8FQ	https://www.sciencedirect.com/science/article/pii/S0959652618325101	