GROWING ROOM

HOUSING IS INDEED NEEDED ACROSS CALIFORNIA FOR FARMWORKERS AND THEIR FAMILIES. Concentrated in California's Central Valley and South Coast, these hard-working professionals are the backbone of a $50 billion-dollar industry. Yet, multiple farmworker households, often with children, live in overcrowded dwellings meant for one family. Even single farmworkers who qualify for the U.S. H-2A Visa program are often crammed into rundown hotels by the companies that hire them. While many communities fight against the development of farmworker housing, and low wages keep these professionals from putting down roots and revitalizing local economies, many farm employers view the labor shortage as their main challenge to success. In just one California county with over 400,000 acres currently in agricultural production, over 33,000 dwelling units are needed to alleviate critical overcrowding for farmworkers and their families. This is an opportunity to meet the needs of both farmworkers and landowners.

CALIFORNIA FARMS CAN CONTINUE TO GROW FOOD THAT FEEDS THE WORLD, BEGIN GROWING ROOM FOR THEIR WORKERS, AND ALSO ADDRESS THE CLIMATE CRISIS. Growing Room utilizes a closed loop, flexible, building system that sequesters carbon, decreases waste, reduces greenhouse gas emissions, and raises living standards for farmworkers and their families.

THE CYCLE BEGINS IN THE FIELD. Harvested endemic grasses, rice chaff, or waste products like nut hulls seeded with mycelium are processed in a cost-effective, efficient factory setting. On the factory floor, Grow Blocks are framed, then insulated to requisite R-values with one of three plant-based materials to create standard dimension structural insulated panels (SIP) components. Windows and doors are also added at this stage. Grow Blocks are then delivered to the build site where many are light enough to stack by hand into endless wall configurations. Walls are built inside a glue-lam post framework. This architectural flexibility allows dwellings to be tucked into interstitial spaces on agricultural land, thereby decreasing the amount of land removed from agricultural production. Additionally, living on agriculturally productive land means driving fewer miles, thereby reducing GHG emissions. The versatility of Grow Blocks easily allows for site specific sustainable building construction that make optimal use of seasonal sun exposure and prevailing winds. Over time, dwellings can grow and change – new rooms, walls, and dwellings can be added to existing structures as uses change or housing densities increase. This lends well to workers who follow crops throughout the state, as well as landowners who can’t afford to install extensive permanent infrastructure on arable land. Mycorrhizal roots grow naturally, it contributes to a more sustainable and equitable agricultural system, and its structure can grow and change as well.

NATURAL INSULATION

RICE CHAFF California produced 2 million tons of rice in 2018. Farmers currently burn the chaff after harvesting. NUT HULLS Tree nut hulls are a proven growth medium for mycelium – the vegetative tissue of mushrooms. Using a NextGen mycelium/hull composite as grow-in insulation creates a safe, high-performance, well-insulated, breathable wall system.

GROW BLOCKS

PLANT MATTER IS FABRICATED INTO STANDARD SIZE GROW BLOCK SIPs with desired exterior and interior finishes, windows, and doors. R-VALUES EXCEED THOSE OF STANDARD CONSTRUCTION with breathable, chemical-free wall systems for healthier indoor air. Posts are cut to size and slipped with blocks.

WALL PANELS

GROW BLOCKS CAN CREATE ENDLESS WALL DESIGNS to take advantage of local climate, exposure, and prevailing winds while maintaining privacy and openness for inhabitants in a wide range of applications.

SINGLE OCCUPANCY

PROTOTYPE - 120 SQFT

- BELLING DOOR
- FOLD-AWAY SLIDING TABLE
- FOLD-AWAY COUNTER & 2 BURNER INDUCTION STOVE
- REFRIGERATOR
- MODULAR FUTON
- COMPOSTING TOILET & FULL SIZE VANITY
- XL SHOWER

ADDITIONAL LIVING SPACE

- WALNUT ORCHARD & HOP YARD
- WESTERN GLAZING maintains winter view while even modern temperatures

- ADDITIONAL LIVING SPACE
- TUCKED INTO SPACE LEFT BY DEAD TREE
- RAISED DWELLING allows farm equipment access

REFURBISHED HOP POLE VIGA CEILING