

Brainstorming

1.Indicator organism, use synthetic organisms direct detect the homozygote , avoid PCR etc relatively tedious work.

(Comment on: PCR is the simpler method, synthetic biology test may be more complicated.)

2.Transform rice from annual to perennial, avoid the bother of annual planting; Thicken cell wall of crops, so as to obtain better mechanical strength or the energy utilization.

(Comments: you can try, but need to ensure that environmental conditions are suitable for being perennial. It is difficult to practice.)

3.fluorescent labeling, with different color and light intensity to detect the kind of pollutants in environment or physical illnesses, and try to use a microbe to detect a variety of pollutants, or use high density bacteria groups like gene chip to achieve this.

(Comments: It's sure that it will be realistic in the future, but it needs time.)

4.Build a controllable biological communities, trying to replace tissues or organs function. Eg, let bacteria produce insulin to cure diabetes

(Comments: you can try, but you should distinguish which one is easy to achieve among in vitro insulin production, production in the body and building a new organ.

5.Use the second genome, intestinal microorganisms, detect and cure intestinal diseases (Comments: Maybe have a try.)

6.Build bacteria communities or biofilm to decompose Waste oils, and recycling the useful parts

(Comments: It is a big problem in the world,the Waste oils can be a new energy.)

7.Use drought-tolerant genes to control irrigation water , reduce the agricultural water consumption

(Comment on: good idea, but not in detail.)

8.Using the bacteria's taxis to absorb nutrients such as inorganic salt or water then lead them to remove nutrient from the deeper soil to surface and meet crops needs.

(Comment on: good idea, can have a try).

9.Bacteria detoxification: when bacteria absorbed amount of harmful substances, start spore generation mechanism, the harmful material will be firmly sealed in the cells, reduce the concentration of the hazardous substances in the environment, at the same time ,use other creatures to decompose the hazardous substance.

Or make the bacteria with harmful substances have good tropism and easy to enrich it.

Plants detoxification: Create a new plant, make it absorb soil heavy metal pollution , and fructify high concentrations of heavy metal fruits, then pick the fruit directly

Comment on: good idea, many scientists are studying it)

10. Build a pathway to response the concentration of telomerase , when the concentration of telomerase rise to a certain degree, then start the cell commit suicide. To avoid the occurrence of cancer cells

(Comment on:This is a very tough basic reserch)

11. The cancer cells relieve the contact inhibition, so the cells can combined irregularly

and be abnormal intimately, build microorganism in the body, can mobile in the space between the normal cells, once encounters two cells at the same time , and then crack the two cells.

(Comment on: a novel idea ,but how to creat this kind of microorganism?)

12. Biological nitrogen fixation. reform azotobacter and make it can automatically adjust to release nitrogen or not according to the concentratiom of nitrogen

(Comment on: Great idea,it's a real synthetic biology.)

14. Using microbial detection to know the concentration of CO₂ in house, and elements can come from C₃, and C₄ plants.

(Comments: you can try, see if someone else has done.)

15. According to the theory of origin of validation organelles .Heterotrophic microbes eat smaller autotrophic microbes, build a symbiosis system in which the benefits flow in both sides.

(Comments: Maybe you can creat a new system)

16. Macromolecular material using bacteria micro array detection system, to detect the structure and content of the material.

Comments: you can try.

17. Use the DNA as a date carrier, through ATCG recoding all ASCII for information storage and replication.

(Comments: this work has been well done by British scholar , we have no advantages.)

18. Microorganism skin care product , or change body odor to fragrance

(Comment on: good idea, you can try.)

19. Using bacteria to wash the dishes , clean the household work as detergent.

(Comments: too slow, and after washing, we need sterilization.

21, The spy words, write with a specific substance in the white paper, and this kind of material is only identified by specific bacteria, and showing the word.

(Comments: you can try, but that's not pratical, because if it can be identified by specific bacteria, and also it can be identified specific chemical molecules, it's no need to use a complicated method)

23. The bacteria dynamite. Bacteria can synthetise methane, it is not easy to find and long-term effective. Detonate it if needed.

(Comment: It's crazy, it will turn to be CBW!)

24. Microbial treatment, can clean up the lung , at the same time consider building a microorganism system inside the lungs like microbial system in the intestinal tract, as a filter and detoxification. Nowadays the air is terrible.

(Comment on: good idea, you can try. Microorganisms may evolve easily, and out of control, you should consider exit mechanism)

25,Use the biosensor to detect radiation intensity

(comment:Great idea!)

26,Take advantage of the excellent features of creatures and integrate with artificial intelligence

(comment: This is human interface research, particularly in prosthetic research, related to biomedical engineering research)

27,Super humankind, for example, studies have shown that some bateria can enhance the

electrical signal propagation velocity between nerve cells, like T virus.

(comment : Good idea or crazy idea ? There will be a great argument in ethical and security)

28, Transformation of engineering bacteria, reducing yogurt fermentation temperature, thus saving money and energy,

(comment: Good idea, practical)

29, Changing the radiant energy into other forms of energy via biofilm,

(comment: the problem is efficiency, if you can make biological photovoltaic cells, more efficient than silicon photovoltaic cells, and you will change the world)

31. Control fluorescent protein by temperature control switch, and produce colorful dynamic artwork by using the temperature sensor

(comment: you can have a try)

32, PM2.5 microbial detection, microorganism desulfurization, accelerate the formation of fossil fuels, to solve the problem of red tide, Inhibition of invasive alien species

33. Microbial carving, corrode metals via bacteria, used in industrial casting, etching, perforation, miniature circuit board.

(comment: It seems that others have done this job)

34, Manufacturing a complex of protein, use virus enclosure so block the spread of some disease

(comment: A novel idea, if it comes true, a lot of disease will be cured)

35, Autotrophic bacteria are emitted into upper atmosphere, so that they secrete an alkaline substance to neutralize acid rain, or repair the ozone hole.

(comment: what do these bacteria eat? autotrophic creature doesn't mean eat nothing, and even they output material continuously)