

A food is manufactured by refining raw oils and blending them together. The raw oils come in two categories:

Vegetable oils VEG1
 VEG2

Non-vegetable oils OIL1
 OIL2
 OIL3

Vegetable oils and non-vegetable oils require different production lines for refining. In any month, it is not possible to refine more than 200 tons of vegetable oil and more than 250 tons of non-vegetable oils. There is no loss of weight in the refining process and the cost of refining may be ignored.

There is a technological restriction of hardness in the final product. In the units in which hardness is measured, this must lie between 3 and 6. It is assumed that the hardness of final product is the weighted average of hardnesses of the raw oils. The costs (per ton) and hardness of the raw oils are

VEG1	VEG2	OIL1	OIL2	OIL3
110€	120€	130€	110€	115€
8.8	6.1	2.0	4.2	5.0

The final product sells for 150€ per ton.

How should the food manufacturer make their product in order to maximize their net profit?