

Teljesítményfokozó sporttáplálkozás

Szabó S. András Tolnay Pál

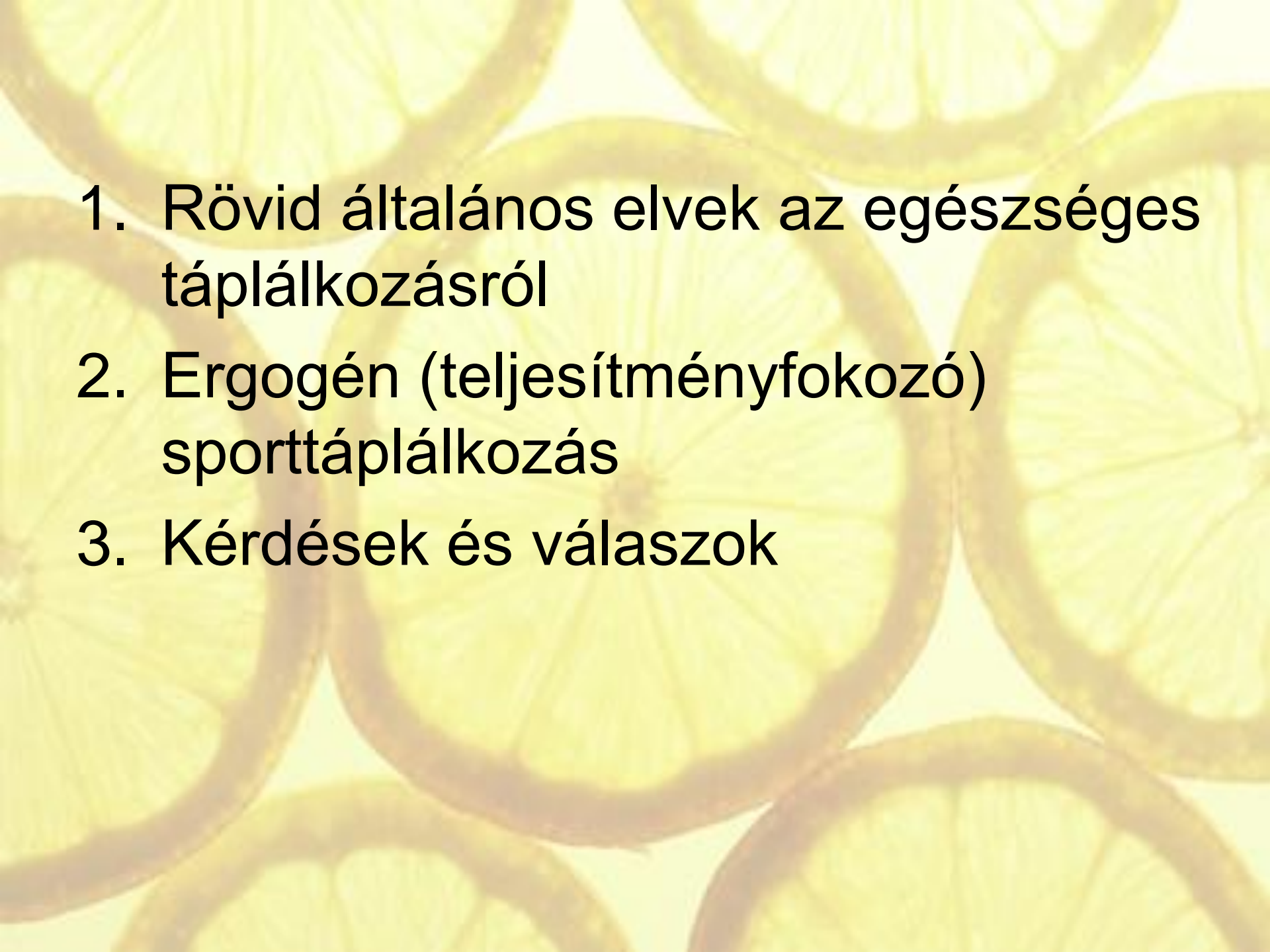
Budapesti Corvinus Egyetem
Élelmiszertudományi Kar

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Edzői Fórum
Magyar Evezős Szövetség
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- „Az ember élettevékenységeinek egyik legfontosabb megnyilvánulása a táplálkozás. A természet hatalmas erővel, az önfenntartás ösztönével kényszerít valamennyiünket arra, hogy a szükséges élelmiszerről gondoskodjunk szervezetünk számára.”

Tangl Harald, 1962

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- The background of the slide features a pattern of overlapping, semi-transparent, dried orange slices. The slices are arranged in a somewhat regular grid but slightly offset, creating a textured, natural-looking backdrop. The color is a warm, golden-yellow, and the slices show the characteristic segments and central pith of an orange.
1. Rövid általános elvek az egészséges táplálkozásról
 2. Ergogén (teljesítményfokozó) sporttáplálkozás
 3. Kérdések és válaszok

Adequate nutrition

Covering the real physiological needs concerning the requirements of

- water
- energy
- protein
- essential fatty acids
- vitamins
- minerals (macro and micro elements)
- dietary fiber
- other biologically active substances (e.g. polyphenols in the wine)

and maintain the optimum body composition (e.g. fat %)

Healthy and adequate nutrition

- No harmful effects (microbiological, toxicological and radiometrical parameters)
- Not more and not less than the physiological need from the components of nourishments (e. g. protein, energy, essential fatty acids, dietary fiber)

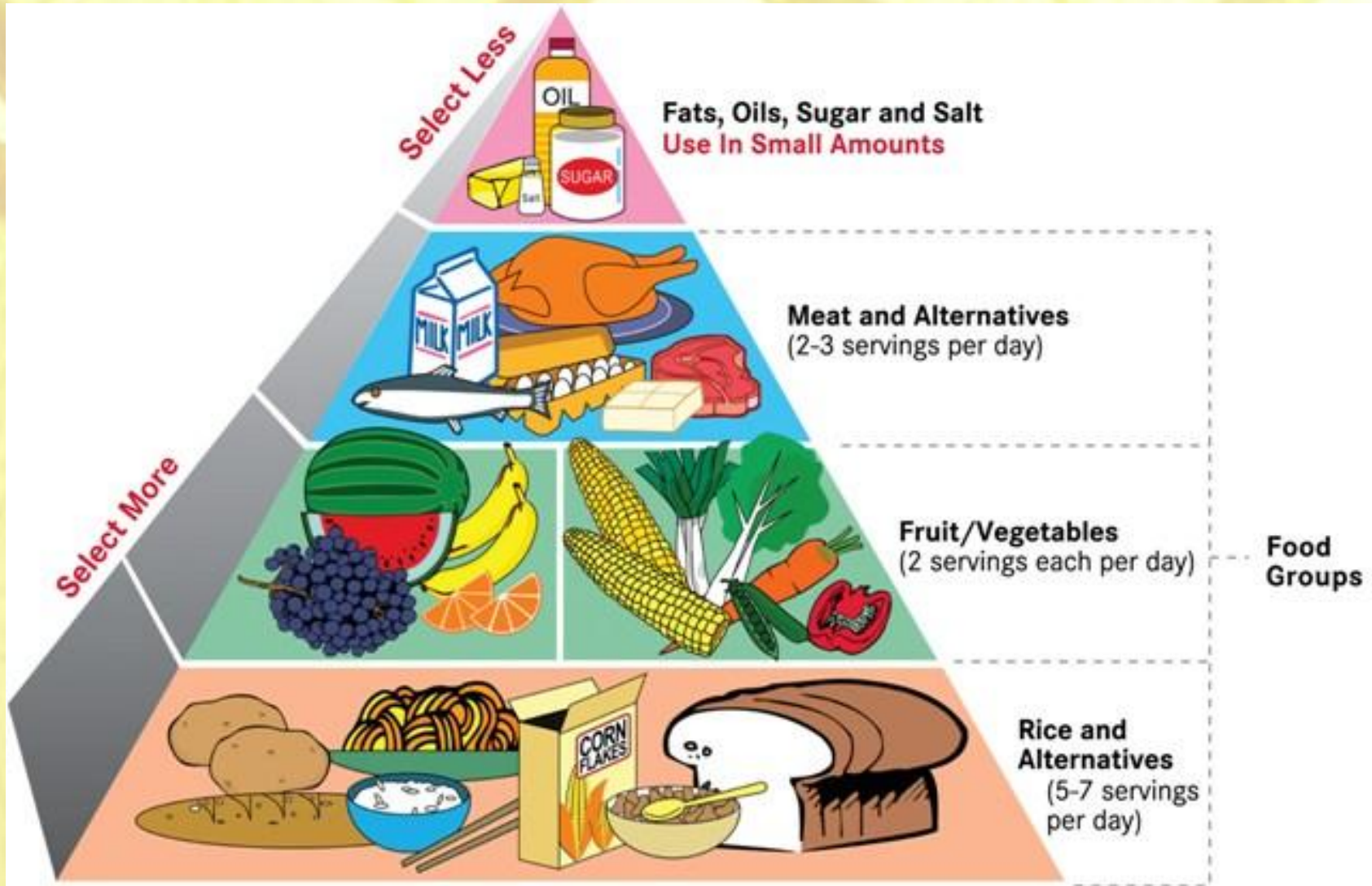
Factors determining the quality of food products

Basic requirement: safety (no harmful effects)

- Sensory properties, value of pleasure
- Quantity, volume
- Chemical composition
- Packaging, labelling
- Special (microbiological, toxicological, radiometrical) parameters

Diet Pyramid

- Diet pyramid is not valid for athletes
- The real requirement of sportsmen can be significantly different as a function of sport branches
- Uniform sport nutrition does not exist



jó táplálkozási minta, változatosság

Jót s jól – ebben áll a nagy titok (Kazinczy)

alap: gyümölcs, főzelék, tej, tejtermék, hús,
gabonafélék (laktóz-intolerancia), paleolit
táplálkozás?

negatív és pozitív élelmiszerek?

fokozott fehérjebevitel, állati fehérje arány,
biológiai érték

vegetáriánus táplálkozás (lehet-e, szabad-e,
célszerű-e)

táplálkozási problémák (anorexia, bulimia) a
nőknél fokozottabb a veszély

nemi érés, fokozott Ca-és Fe-bevitel fiatal
nőknél (kávé, tea)

Protein requirement

Minimum requirement: 0.5 g/kg bodyweight

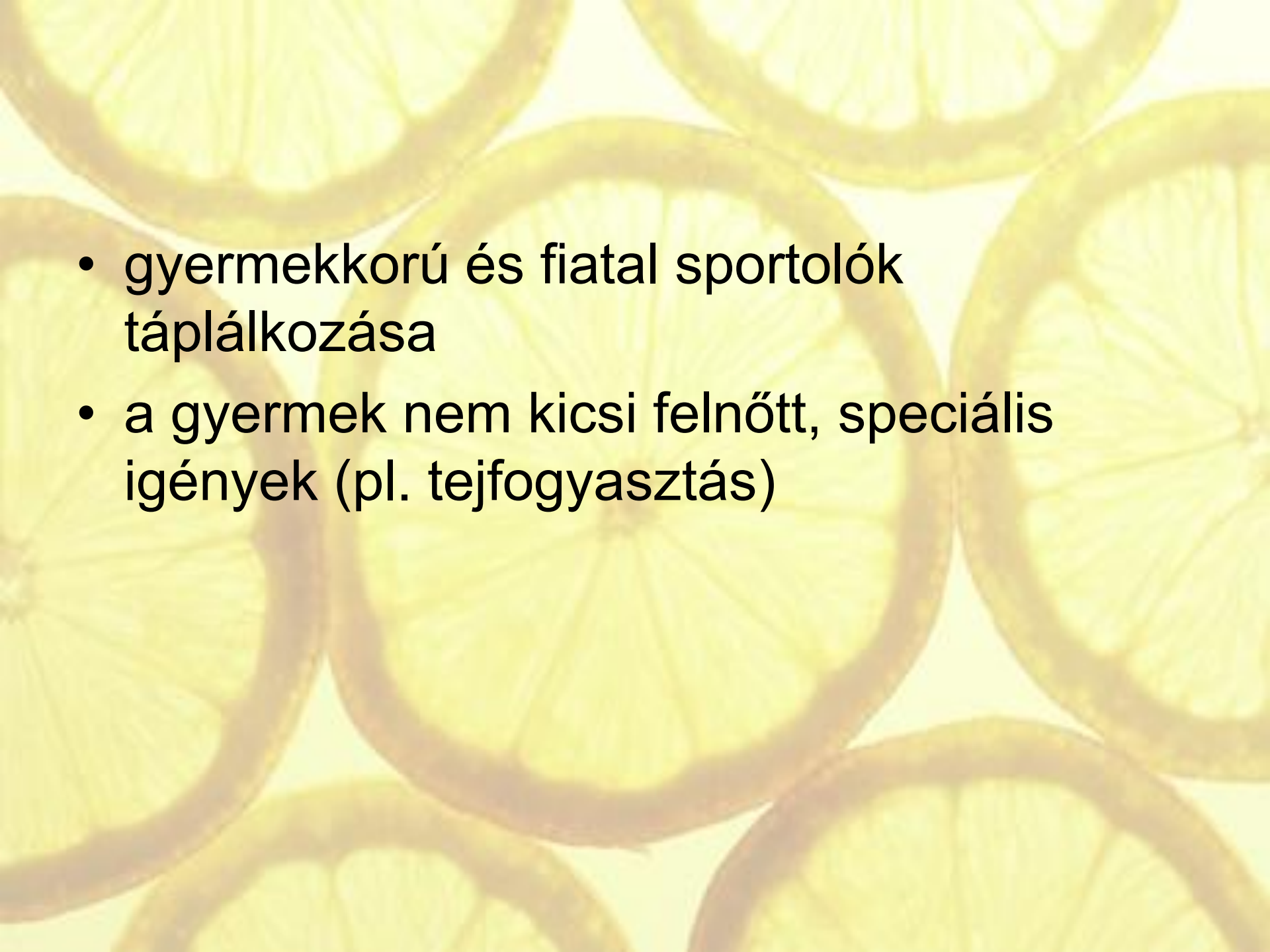
Normal need for untrained human beings: 0.8-1.0 g/kg bodyweight

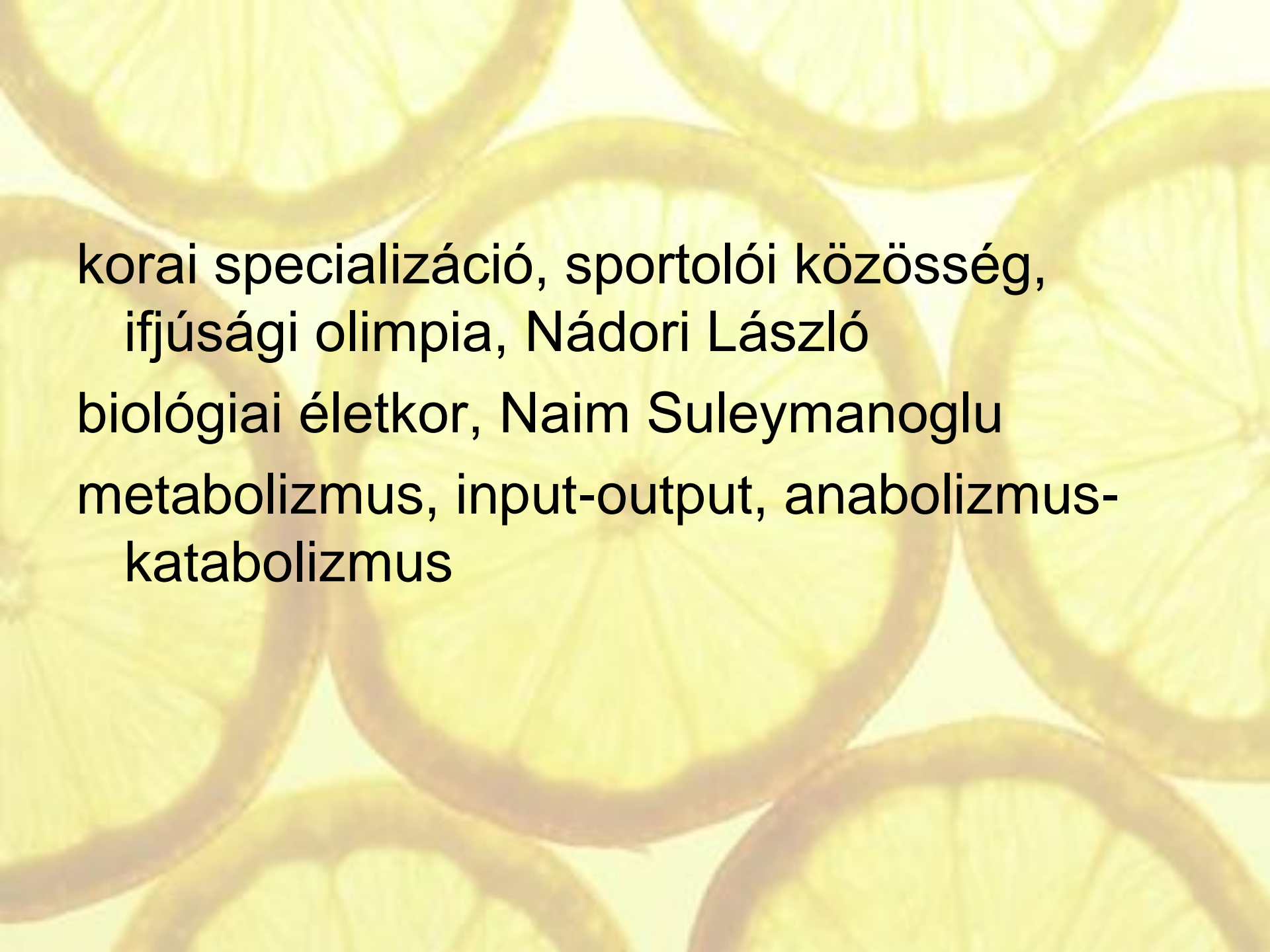
Typical protein take in developed countries: 1.0-1.5 g/kg bodyweight

Protein requirement for rowing athletes: 1.5-2.0, for strengths athletes 2.0-2.5 g/kg bodyweight

Why do the top athletes need so much protein:

- higher energy requirement because of intensive training
- higher muscle ratio than in case of untrained people
- extra requirement for the muscle protein biosynthesis

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- The background of the slide is a repeating pattern of semi-transparent orange slices, showing the internal pulp and rind, arranged in a slightly overlapping, circular pattern.
- gyermekkorú és fiatal sportolók táplálkozása
 - a gyermek nem kicsi felnőtt, speciális igények (pl. tejfogyasztás)

The background of the slide features a repeating pattern of dried orange slices. The slices are arranged in a somewhat overlapping, grid-like fashion, with some appearing more prominent than others. The color of the slices is a warm, golden-yellow, and they have a visible texture of dried pulp and rind. The overall effect is a soft, natural, and healthy-looking background.

korai specializáció, sportolói közösség,
ifjúsági olimpia, Nádori László
biológiai életkor, Naim Suleymanoglu
metabolizmus, input-output, anabolizmus-
katabolizmus

Factors, determining the performance level e.g.:

- biological parameters
- mental and psychological parameters
- level of coaching
- conditions of training and living
- nutrition (adequate one with supplementation)
- medical background (legal and illegal)

Classification of sport branches

components	non sportsmen	endurance athletes	endurance and strengths athletes (e.g. rowing)	strength athletes
	Recommended energy %			
protein	12-14	13-15	16-18	18-20
carbohydrates	56-60	57-61	51-55	48-52
fat	28-30	26-28	28-30	30-32

Reduce and regulation of bodyweight

- Reduce (decrease) before the competition, short term event
- Difference between training weight and weigh-in weight
- Regulation (control) of bodyweight during the whole year (permanent process)

How to reduce the weight

- Decrease of energy intake
- Adequate protein
- Decrease of water intake
- Decrease of salt intake
- Sauna (dry and wet ones)
- Diuretics, laxatives

How to regulate the weight

- Moderate eating
- Optimization of water intake (slightly hyperhydrated state of body)
- Physical activity
- Fat burning
- Medical help (only in special cases)

Application of quality protein concentrates

- not more than a quarter of protein requirement should be covered from concentrates, the bigger part should be based on normal dietary food (conventional nourishment)
- the amount of concentrate should be divided into minimum 2 doses to prevent the human body from constipation
- after 4-6 weeks of continuous application some days of break are recommended

Application of carnitine

- increase of aerobic energy metabolism
- promotion of fat utilisation
- reduction of lactate build up
- improvement of blood supply to muscles
- increase of the immunological defence
- prevention of protein breakdown
- protection against overtraining
- shortening the regeneration time

Application of creatine

- influence of the short duration alactic performance
- increase of the body weight and muscle weight
- influence of the body composition (positive nitrogen balance, water retention)



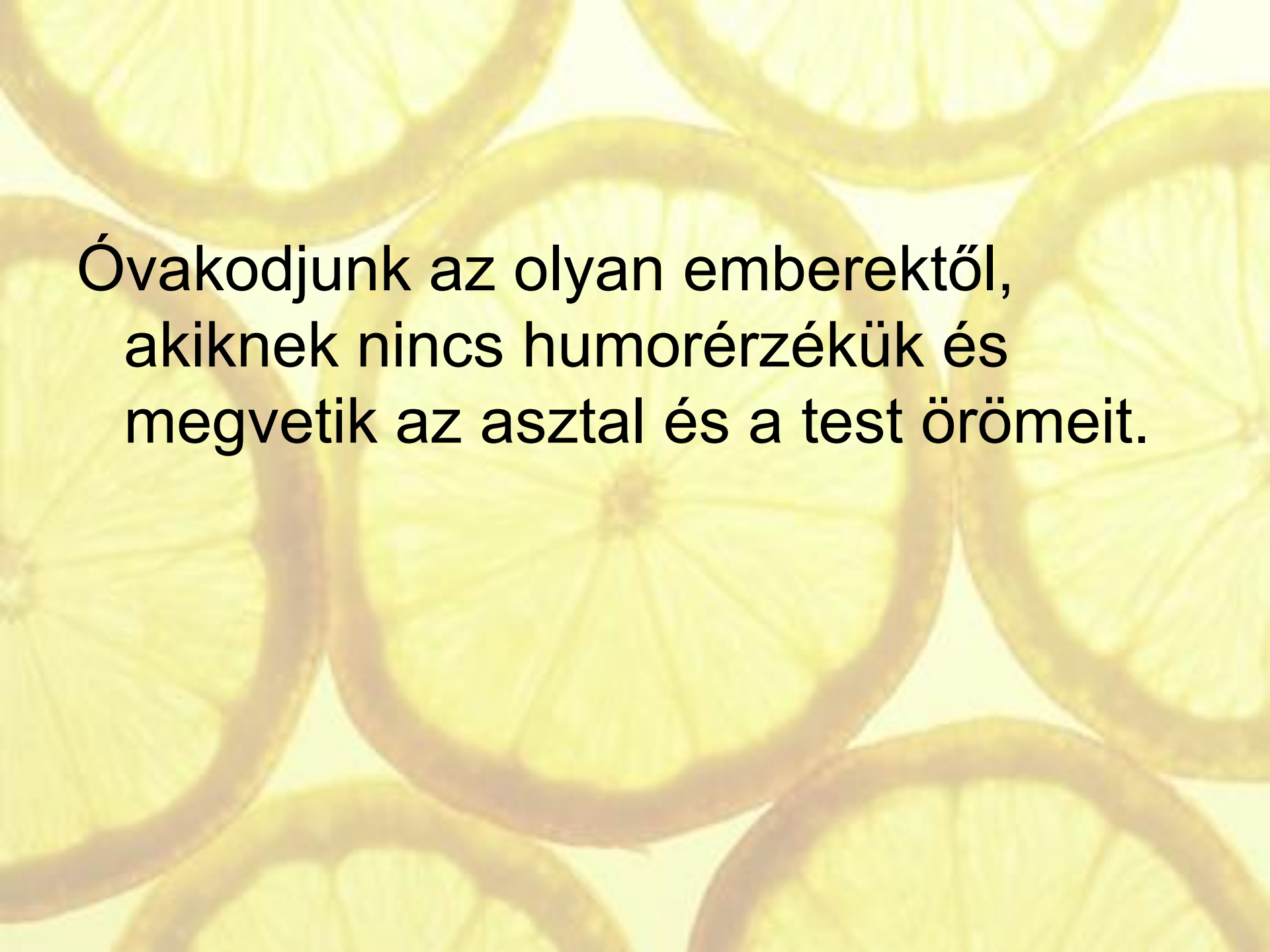
Application of free amino acids

- fast absorption from the gastro-intestinal system
- enhancement of protein biosynthesis, strong anabolic effect (e.g. lim. AA, lysine, tryptophane, methionine)
- anticatabolic effect, protection against muscle protein breakdown (e.g. valine, leucine, HMB, BCAA)
- fat burning effect (e.g. arginine, taurine, lysine, HMB)
- improvement of immune system (e.g. ornitine, glutamine, arginine)
- activation, stimulation of hormonal system, release of HGH (e.g. ornitine, arginine, lysine)
- protection against over-training (e.g. asparagine, tyrosine, BCAA)
- enhancement of recovery (e.g. tyrosine, glutamine)

Conclusions

To get a high performance level in top sports – without illegal substances, like androgenic-anabolic steroids – the following proposition can be applied:

- good balanced nourishment, adequate nutrition
- supplementation with essential minerals and vitamins
- application of high quality protein concentrates
- supplementation with carnitine
- supplementation with creatine
- supplementation with free amino acids and HMB

The background of the slide features several overlapping, semi-transparent slices of dried orange. The slices are arranged in a scattered pattern, with some in the foreground and others slightly behind, creating a sense of depth. The color is a warm, golden-yellow, and the texture of the dried fruit is visible.

**Óvakodjunk az olyan emberektől,
akiknek nincs humorérzékük és
megvetik az asztal és a test örömeit.**



A still life arrangement of various fresh fruits. In the top left, a cantaloupe is sliced in half, showing its orange flesh and seeds. To its right are two red apples. In the center, there are several clusters of purple grapes and three bright red strawberries. On the right side, there is a bunch of dark purple grapes and a single slice of green kiwi showing its characteristic pattern. In the foreground, there are three nectarines or peaches with a red-to-yellow gradient, and a single yellow banana. The entire arrangement is set against a plain, light-colored background.

Thanks for your kind attention