

KOKAN[®] AIR BLUEBERRY
HARVESTER

Preconditions for efficient mechanized blueberry harvesting

KOKAN AIR BERRY HARVESTERS

Marko Kokanović, CEO of BSK Air Technologies



AGENDA

1. About us
2. Harvesting principles
3. Space – standards for mechanized harvesting
4. Important factors in mechanized harvesting
5. Variety features suitable for mechanized harvesting
6. Shaping
7. Planting/growing
8. Air Jet Harvesting- innovative technology
9. 3 Air harvester models
10. Air harvesting- benefits



ABOUT US

- BSK - family company, located in Serbia, developed KOKAN Air Harvesting technology worldwide patented
- 20 years of experience – harvesting blueberry, raspberry, blackberry, black currant, hascap, etc.
- Over 100 KOKAN harvesters operating worldwide from Canada to New Zealand, in most countries have dealers/servicers
- Biggest individual user - 22 Kokan harvesters
- Mission - World technical leader in berry harvesting technology (new harvester models, software development)



Harvesting principles

(blue doesn't always mean mature)

BLUE =



Harvesting principles



- Hand harvesting - color principle; pull by fingers/fist
- Mechanised harvesting (shaking and catching) - principle of berry ripens; ripe fruit has a weaker connection with stem than unripe fruit



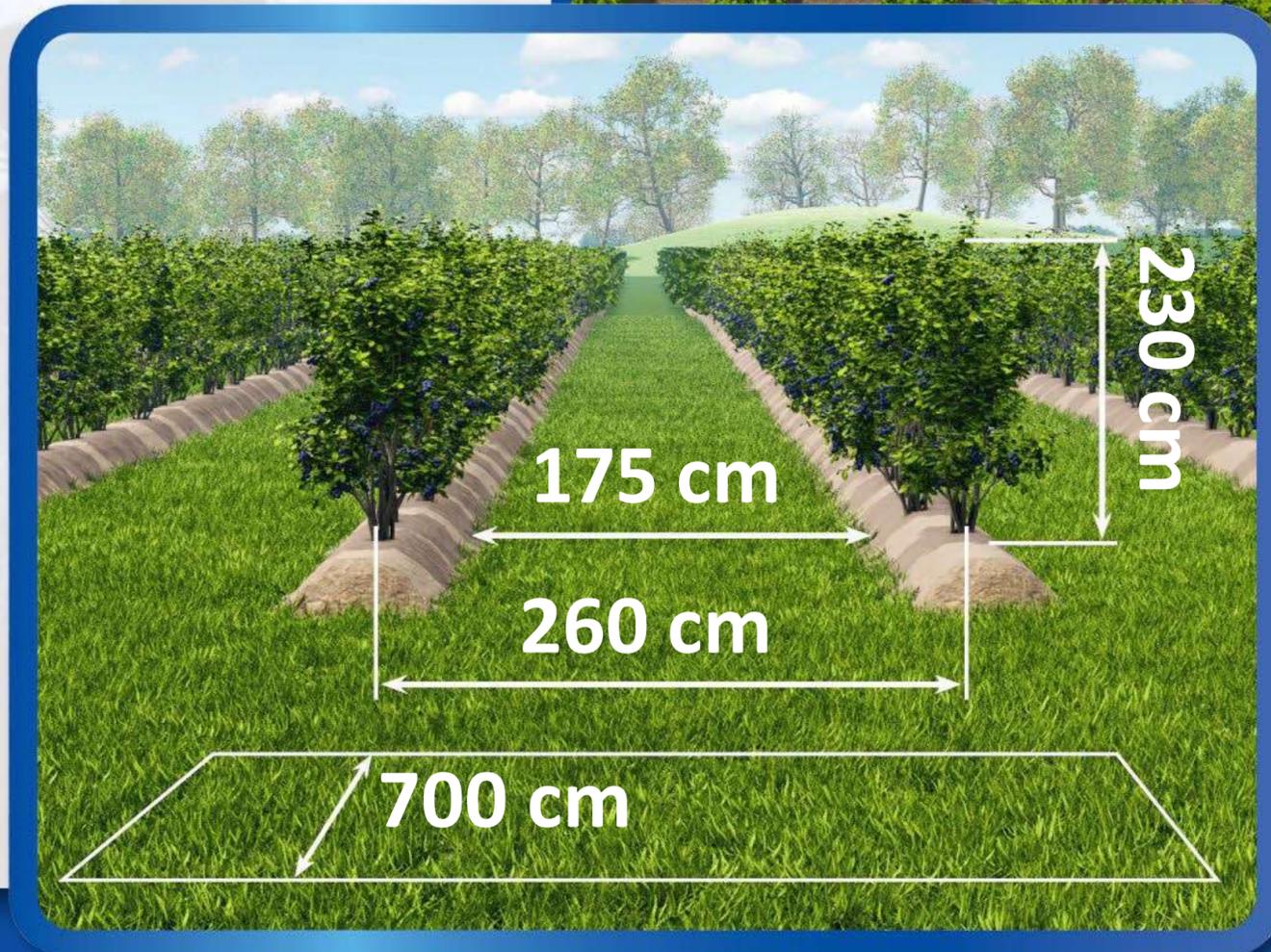
SPACE

standards for
mechanized
harvesting



Space standards for mechanized harvesting

- Enough space between rows for a tractor to pass during harvesting period
- 7-8 meters for turning
- pols in line not higher than 2,3m from ground or tunnels not lower than 2,5m.



Important factors in mechanized harvesting



Important factors in mechanized harvesting

I. Varieties - suitable for mechanical harvesting;

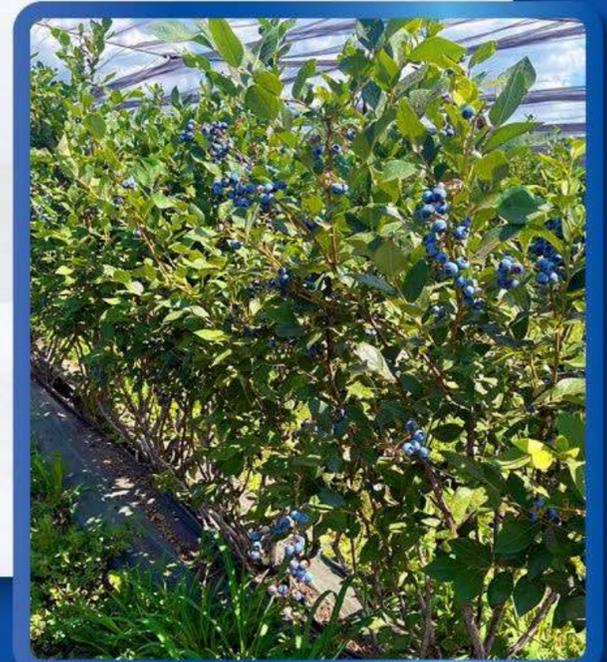
II. Shaping - pruning;

III. Planting/growing;



Variety features suitable for mechanised harvesting

- Uniform ripening
(less passes, cost effective, less percentage of green in total);
- Good differentiation between ripe and unripe fruits (red and green)- check- shaking test
- Size of berries (bigger berries have bigger mass and easier to shake off); M, L, XL
- Bigger yield (bigger quantity in one pass)
- Upstream bush (easier to shake and catch)
- Firmness



Important factors in mechanized harvesting

Shaping

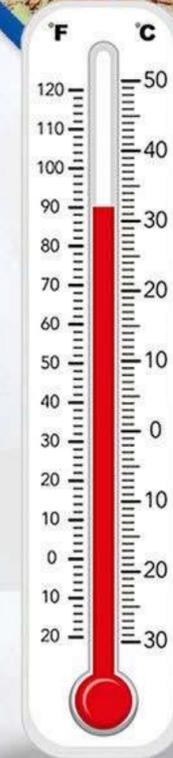
- Y shape (narrow base and wider upper bush) - catching
- Lower branches, higher than 50cm from ground - catching
- Floricane branches better than primocane (tight cluster) - shaking
- Bigger green mass of bush, better air shaking



Important factors in mechanized harvesting

Planting/growing

- Higher planting-soil beds and pots, better than flat ground - catching
- Plants without stress (waterless, heat, diseases)
- Time of picking (temperature less than 32 C and humidity more than 40%)- easier shake, better quality

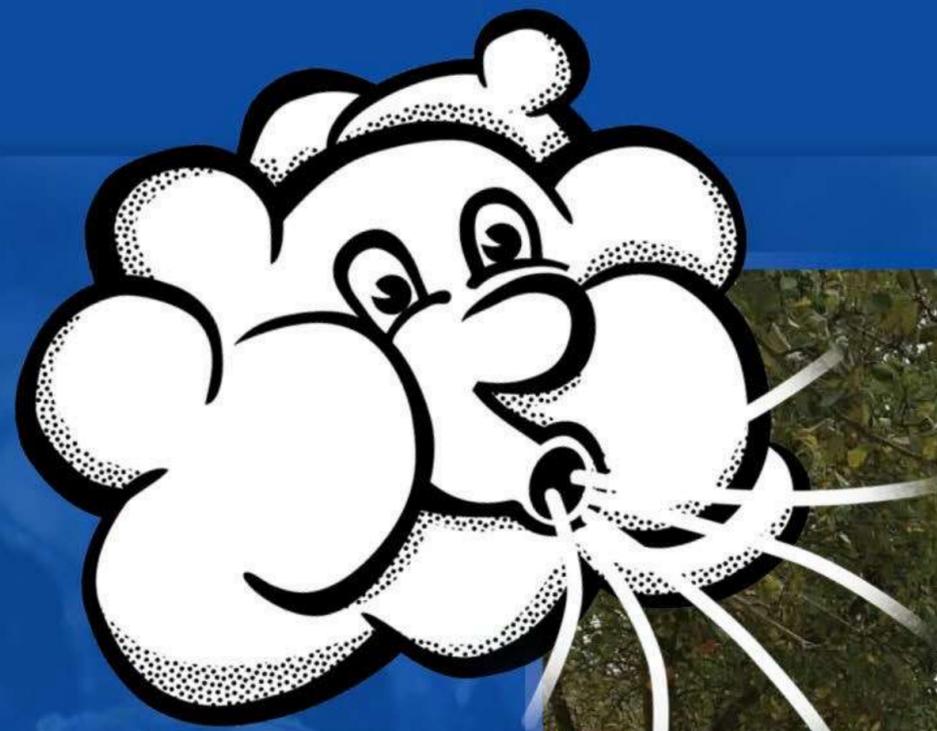


32°C

Air Jet Harvesting

**innovative
technology**

FORCES OF NATURE



Introducing KOKAN technology

Air Harvesting Technology

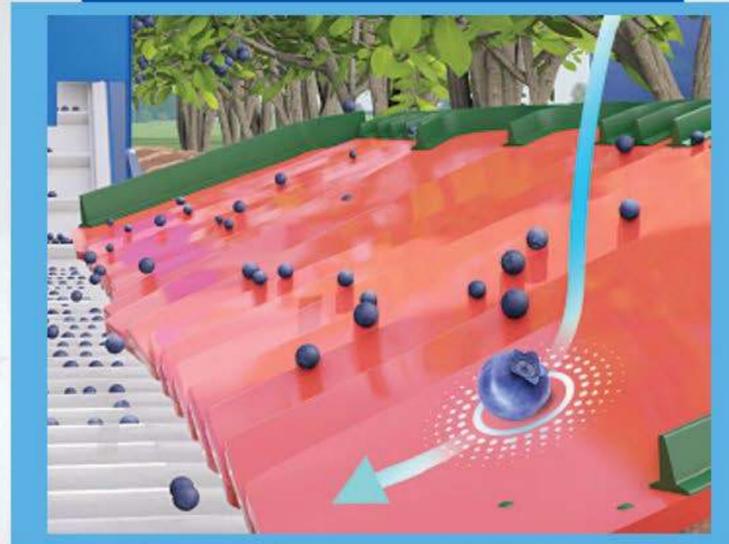
Efficiency of Nature at
Your Command



KOKAN's unique technology uses pulsating air jets of controlled velocity and frequency. The process is touchless, avoiding any damage to berries and plants.

Pneumatic Pillows

Soft Grip Technology at
Your Service



Rubber catching system, filled with soft air, absorbs the energy of dropped berries thus eliminating bruises.

Fingers

Enhanced Performances in
Your Control



Boosting the force and speed of harvesting, when needed (e.g. for cleaning plants).

3 Air harvester models

500S



600T



500L



3 Air harvester models



Kokan 500S- own diesel engine (small tractor)



Kokan 600T- self propelled, rear load harvester



Kokan 500L- cardan shaft model (powerful orchard tractor)

BENEFITS



Air harvesting - benefits

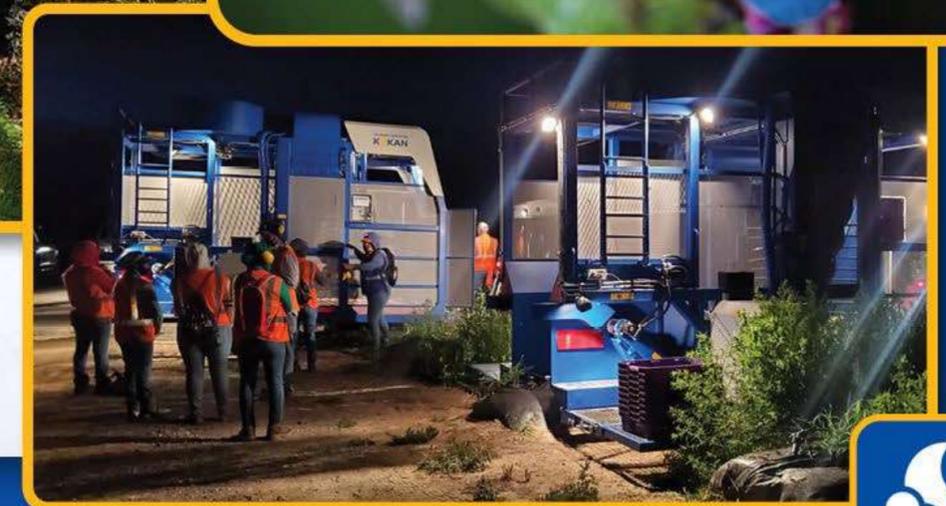
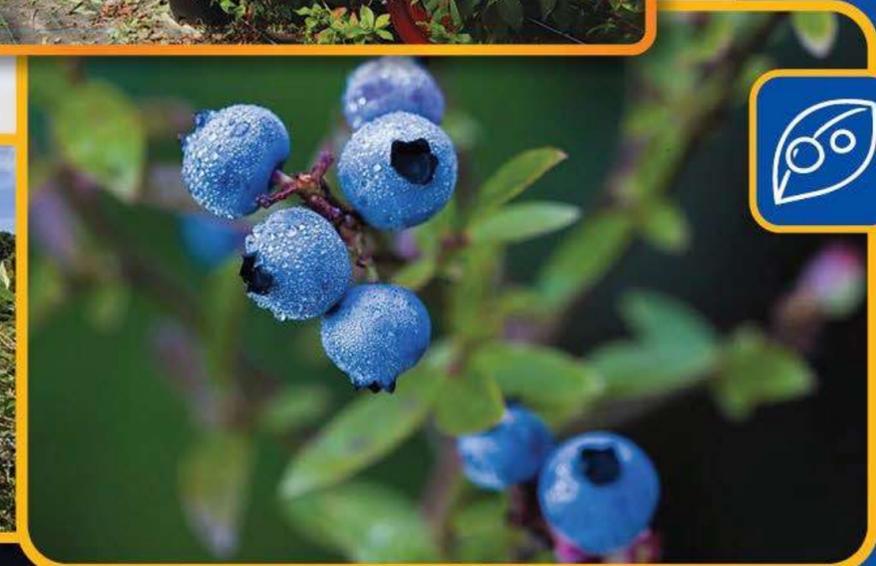
- Fruit quality on branches - you have it in boxes!
- Impact on quality are less than 1% - KOKAN technology!
- Southeren varieties approved for fresh market
- Multi crop harvester
(raspberry, blackberry, black currant, haskap...)



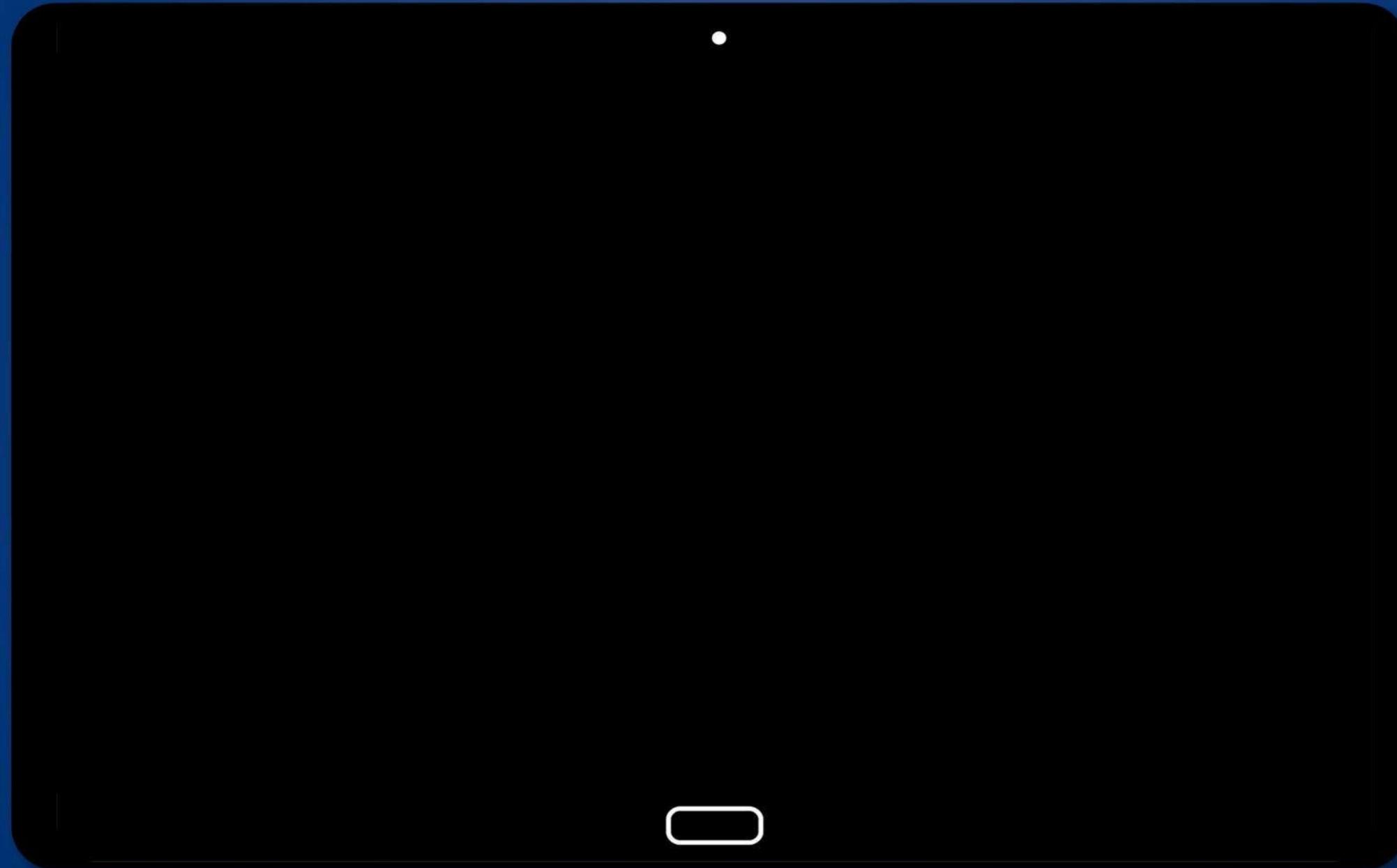
Air harvesting - benefits

Possibility to harvest:

- Under net
- In green houses
- In the pots
- In the morning dew- air blow moisture
- In the night
- After light rain
- Uphill (up to 20 degrees)



Air blueberry harvesting



**Thank You for
your attention**

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